



cutting through complexit

KPMG's Global Automotive Executive Survey

2015

Who is fit and ready to harvest?

kpmg.com/GAES2015



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based on your own preferences



KPMG's Global Automotive Executive Survey 2015

Acknowledgements

The Global Automotive Executive Survey is KPMG International's annual assessment of the current state and future prospects of the worldwide automotive industry. In this year's survey, 200 senior executives from the world's leading automotive companies were interviewed, including automakers, suppliers, dealers, financial services providers, rental companies and mobility solution providers. The responses were very insightful and we would like to thank all those who participated for giving us their valuable time. Special thanks to Moritz Pawelke and his team for their efforts.

Foreword

In coming years the automotive sector will need to achieve a fine balance between its traditional product- and technology-driven past and its potentially ubiquitously connected consumer lifecycle-centric and service-driven future.

As this year's survey findings demonstrate, the industry seems to be positioned halfway between these two imperatives. On the one hand, increasingly strict regulatory standards call for a strong focus on powertrain optimization, rationalization and standardization. On the other, increasingly tech-savvy customers are helping to create a completely new mobility culture.

Tomorrow's consumers will not only expect, but demand new and innovative services and mobile apps that plug seamlessly into ubiquitously connected solutions. To stay ahead, traditional automotive players may need to reinvent their business models and ask themselves two pressing questions: "how do I become a high value service brand, while making the most of my strong product and engineering heritage?" and secondly, "how do I think about my brand from a consumer perspective, to attract the new generation of 'digital natives'?"

It is not just the automotive industry that is changing; so has our survey,

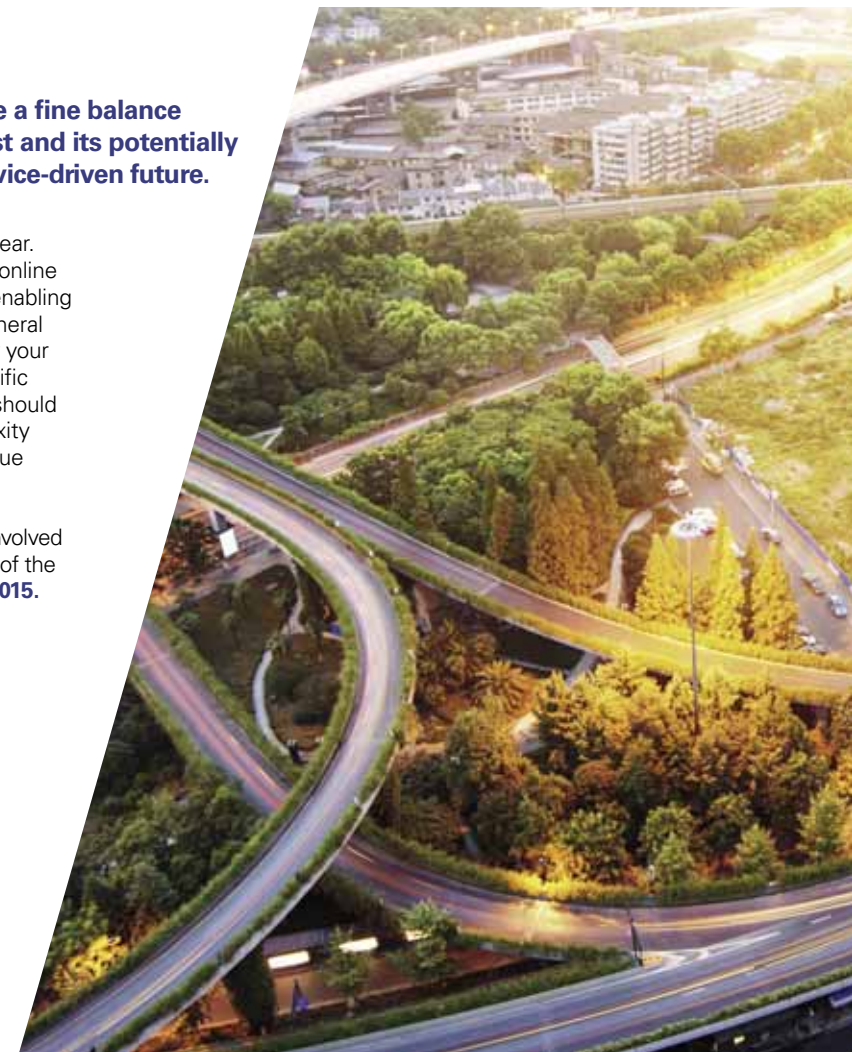
now in its 16th consecutive year. We have placed the findings online and made them interactive, enabling you to not only digest our general conclusions, but to also draw your own inferences for your specific area of interest, all of which should help you cut through complexity and extract the maximum value for your business.

I personally invite you to get involved and access our online version of the survey at kpmg.com/GAES2015.

Enjoy the read!



Dieter Becker
Global Head of
Automotive
KPMG International





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Executive summary



Mobility culture

Auto executives' views tend to reflect concerns over current commercial challenges, suggesting a lack of consensus over the shape of the future mobility eco-system.

KPMG viewpoint

Auto execs are caught between regulations that create technological challenges, and satisfying the target group of tech-savvy mobility consumers, that are never offline.

Key trends to 2025

Many innovative key trends are lower on executives' agendas up to 2025:

The majority of the executives still feel that growth of emerging markets is the number one key trend.

Only a minority of respondents consider alternative powertrain technologies, mobility services and vehicle connectivity as extremely important key trends until 2025.

Please see p8-9

Purchasing criteria to 2020

Purchasing choices over the next five years are not yet driven by innovative concepts and online services:

Auto executives believe consumers are still fixated on traditional product issues, with fuel efficiency rated clearly as number one, closely followed by safety and comfort.

Compared to the 2014 survey, executives see a heavily increased emphasis on enhanced vehicle lifespan, most likely due to the burst of product recalls in recent years.

Please see p10-11

Vehicle segment preferences

The small and basic car segment is expected to have a high growth potential in established and emerging markets over the next five years:

Executives from mature markets predict decreasing sales potential for the large car segment up to 2020, with a more positive view of the basic and small car segment.

BRIC market respondents envisage tremendous growth potential for all car size segments in the next five years, particularly small and basic cars.

Please see p12-13

Vehicle ownership versus usage

Vehicle ownership for all age groups is considered important up to 2020:

Most respondents believe vehicle ownership will still be important for under-25s, while those aged between 25-50 are expected to be even more reliant on their own cars for personal mobility.

Mobility services are forecast to be an important source of profit in five to 10 years in both established and emerging markets.

Please see p14-15



Technological fit

According to this year's survey, the optimization of traditional fossil fuel-based propulsion technologies still dominates the technological roadmap.

Investment priorities to 2020

Downsizing is still the number one powertrain investment area over the next five years:

However, since the 2014 survey, auto execs from mature TRIAD markets have become relatively less focused on this area than their BRIC counterparts.

The number two investment priority for both TRIAD and BRIC execs is fuel cell vehicles, replacing pure battery electric technology.

Please see p16-17

E-car technology trends to 2020

Plug-in hybrids are set to attract the highest demand of all electrified propulsion technologies:

Although still rated as the most important e-technology, plug-in hybrids' popularity has diminished year-on-year.

Battery electric vehicles remain in number two position. However, in contrast to prior years, a higher proportion of respondents believe demand for fuel cell electrical vehicles will increase over the next five years.

Please see p18-19

E-car market penetration to 2025

High e-car market share forecasts appear contrary to investment priorities:

The majority of auto execs from Western Europe and China believe that the share of electrified vehicles (among overall new car registrations) will be between 11-15 percent. Respondents from North America are even more optimistic, with most foreseeing a share of between 16-20 percent in 10 years.

Please see p20-21

Connectivity: The next big thing

The notion of self-driving cars as the last evolutionary step of connectivity seems to be more distant than media attention suggests:

Auto execs from mature Asian countries like Japan and Korea are slightly more optimistic about autonomous driving, believing there will be a breakthrough in the next 20 years. Respondents from Western Europe, North America and China are more hesitant.

Please see p22-23

----- Are companies betting on the right technologies? 

----- What is driving consumer demand? 



Business model readiness

Executives are very optimistic that traditional automotive players can cope with an increasingly unstable mobility eco-system in the short term.

KPMG viewpoint

Future automotive business models should view the customers' wider lives beyond their role as drivers, building up a personal relationship to increase loyalty, in order to stay on top of the longer-term customer interface.

Business model disruption ahead?

No major business model change or disruptive event is expected over the next five years:

Most auto execs believe that original equipment manufacturers (OEMs) will continue to own the customer relationship up to 2020.

Please see p26-27

Business and investment strategies should remain conservative until 2020:

Organic growth is expected to be the number one strategy for future success, with two-thirds of auto execs rating this factor as extremely important.

Since 2014, an increasing number of respondents feel it will be necessary to diversify and expand the value chain and cooperate with players from converging industries, to cope with a mobility eco-system that is becoming more and more unstable.

Please see p28-29

Readiness for a new mobility eco-system

Traditional automotive OEM brands should matter most in 10 years' time:

Auto execs believe it is extremely likely that automotive premium and mass market brands will dominate over the next decade, followed by pure e-car manufacturer brands.

Brands from the ICT sector are predicted to be more important than traditional Tier 1 supplier brands.

Global players like Daimler, BMW and GM are considered to be best prepared, closely followed by Volkswagen, Toyota and Ford.

In the executives' eyes, newcomers like Tesla still have a huge gap to close to achieve the awareness and reach of traditional OEM brands.

Please see p30-31

Strategies to survive

OEMs' key survival strategy is to achieve and maintain global reach.

For globally established OEMs, such as BMW, Volkswagen and Toyota, remaining independent is the top priority.

OEMs with limited global reach, mainly from China and mature Asian countries, are most likely to merge with others in order to survive.

Please see p32-33



Prepared to harvest

Executives feel there will be no major shift of power between OEMs until 2020.

Race for market share until 2020

In the medium term, traditional OEMs are forecast to maintain their dominance. However, they should prepare for a more disruptive future.

Auto execs are most optimistic that the Hyundai group will increase its global market share.

Volkswagen is considered to have far greater potential than its closest competitors, Toyota and GM.

When it comes to Chinese OEMs, respondents rate Chery as having the best chance of increasing market share up to 2020.

Tata, another emerging OEM, is rated very positively and is expected to grow its market share.

Please see p34-37

KPMG viewpoint

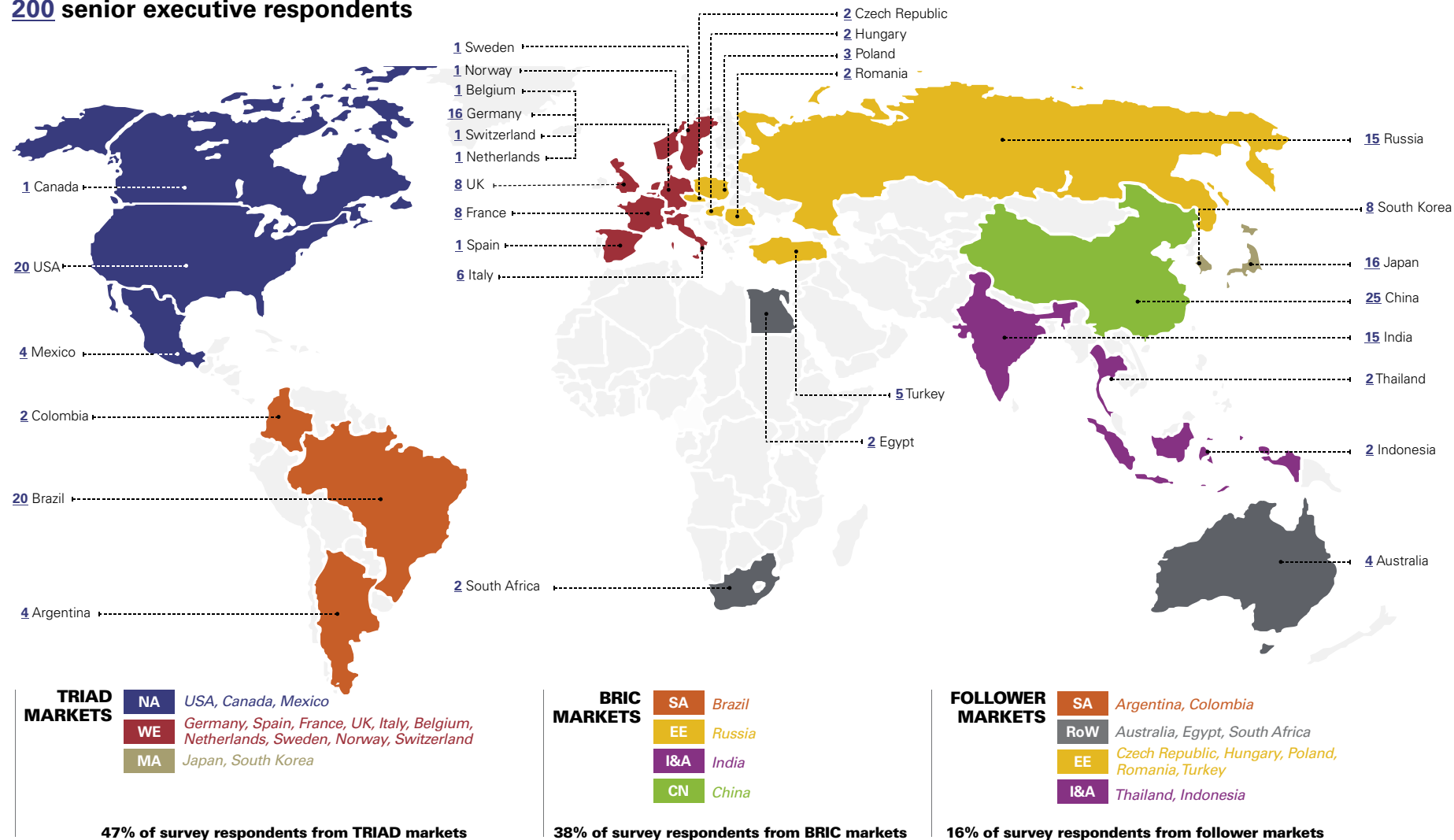
Auto companies should choose the core competencies around which to center their future business model. Will success come to product-driven hardware manufacturers or brand-driven, integrated mobility solutions providers?

– Who is best positioned for sustainable growth?

– Is the industry set for an unstable mobility eco-system?

About the survey

200 senior executive respondents



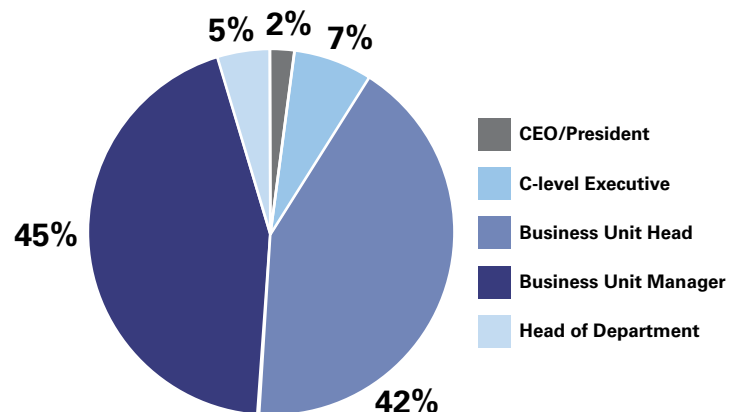
Note: Percentages may not add up to 100 due to rounding **Source:** KPMG's Global Automotive Executive Survey 2015

DEMOGRAPHICS

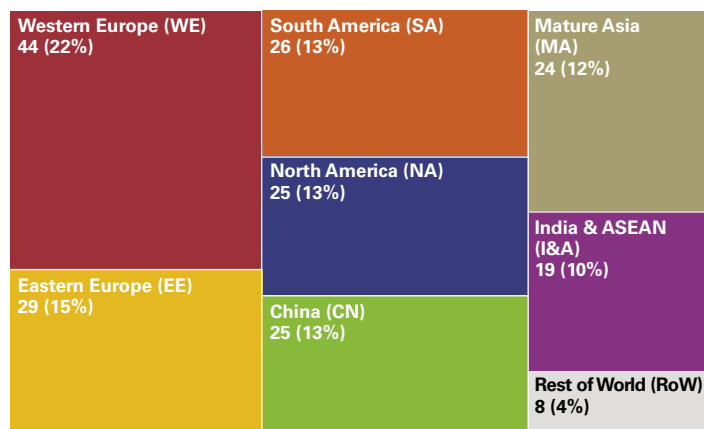
200 senior executives – a clear picture of who they are and where they are from

About the survey

Respondents by job title

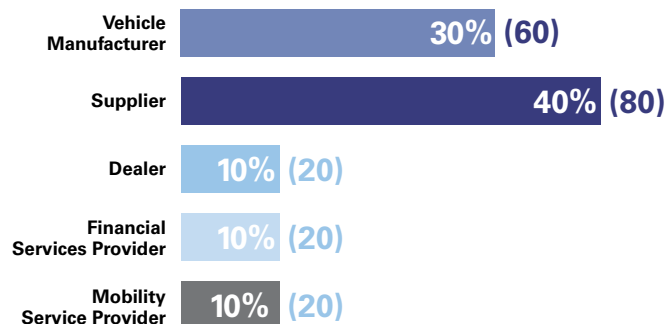


Respondents by regional cluster

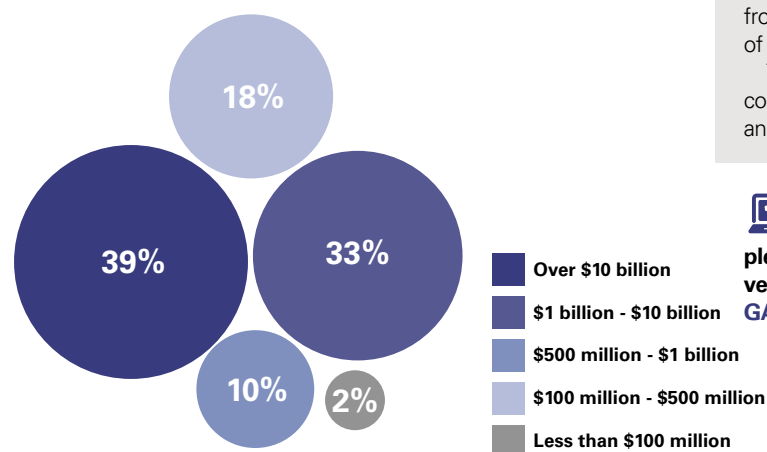


Note: Percentages may not add up to 100 due to rounding Source: KPMG's Global Automotive Executive Survey 2015

Respondents by company type



Respondents by company revenue



Survey respondents

Two hundred automotive executives participated, over half of whom are business unit heads or higher. The respondents come from all parts of the automotive value chain including vehicle manufacturers, Tier 1, 2 and 3 suppliers, dealers, financial services providers, and mobility service providers (including auto rental and car sharing companies).

Thirty-seven percent of the executives are based across Western and Eastern Europe, with 13 percent in North America, 13 percent in South America and 13 percent in China.

Over two-thirds of all participants represent companies with annual revenues greater than US\$1 billion. Nearly 40 percent of all respondents are from companies with an annual revenue of more than US\$10 billion.

The respondent interviews, which were conducted by phone, took place in July and August 2014.



To find out more details about this year's survey respondents, please access the interactive online version of this survey on kpmg.com/GAES2015.

Mobility culture



What is driving consumer demand?

The winds of change are sweeping through mobility culture, with growing demand for new services from evermore sophisticated customers – not just in mature markets but around the world

Against this backdrop, auto executives appear to be focused on traditional concerns such as optimization of fuel-driven combustion engines and cost efficiency programs, trusting that emerging markets will be the main growth drivers for a long time to come.

This mindset could leave the main players highly vulnerable to new competitors eager to attract the customer of tomorrow, by 'owning' innovative concepts like mobility services and vehicle connectivity technologies. Only time will tell if the respondents' views on a number of issues prove to be accurate.

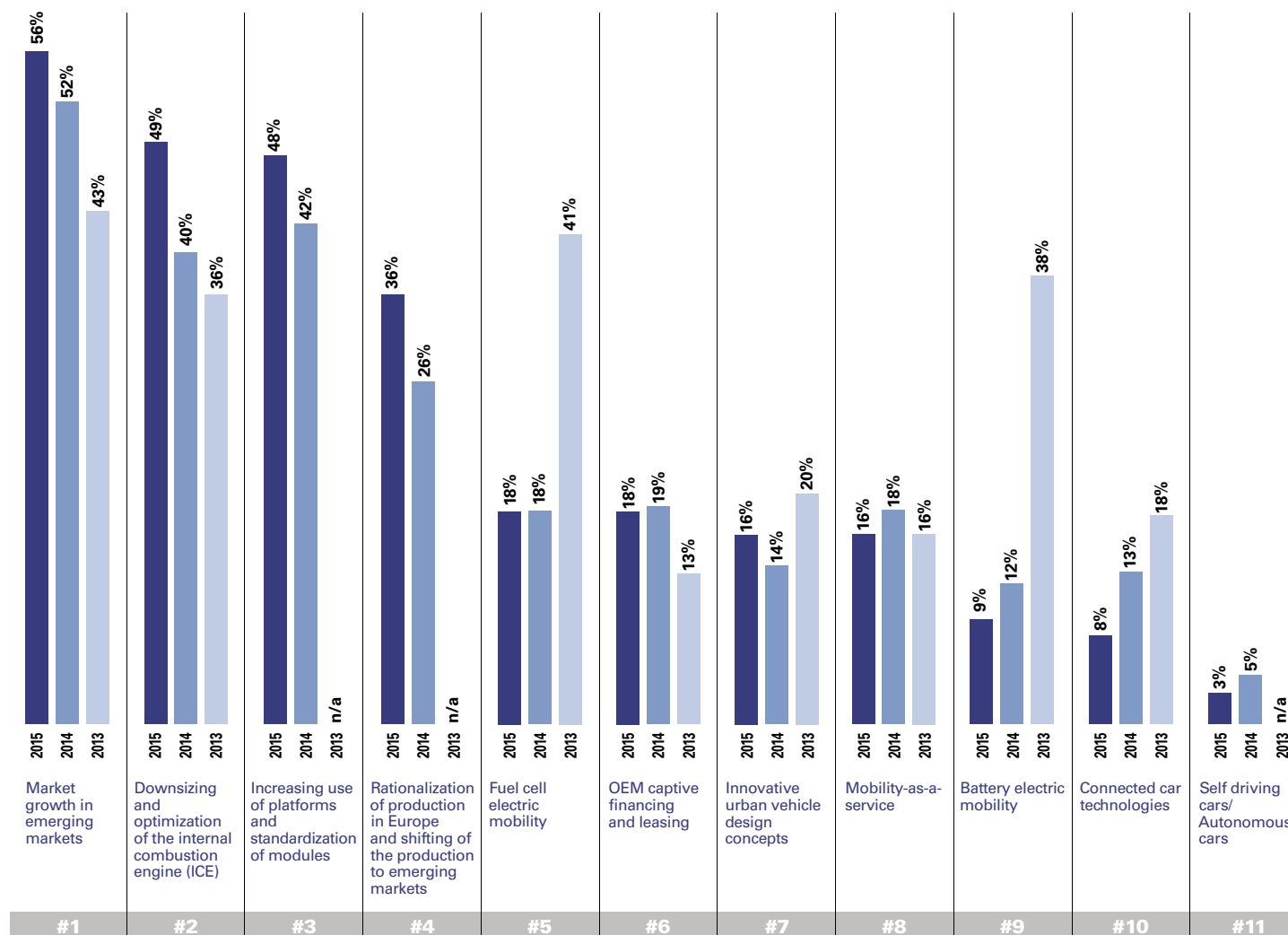
The survey participants believe that: customers' key priority is fuel efficiency, which is in line with their expectation that sales for small and basic models will be particularly strong; and, although car ownership is predicted to remain high across all age groups, mobility services such as car sharing are expected to see profitable growth within the next decade.

KEY TRENDS TO 2025

Importance of key trends for the automotive industry

Mobility culture 

Innovative long-term concepts are not high on executives' agenda



Note: % of respondents rating a key trend as extremely important. N/a – answer not included in respective year **Source:** KPMG's Global Automotive Executive Survey 2015



Survey results

The auto executives' agenda is dominated by traditional trends such as growth in emerging markets, optimizing the internal combustion engine, standardized platforms and rationalized production.

Newer, industry-changing developments such as self-driving cars, connectivity, urban vehicle design and mobility services are still considered as relatively less important.

KPMG viewpoint

The survey results show that auto players are adapting to regulatory restrictions on CO₂ emissions, and are aware of the significant impact of cost pressures and portfolio shifts.

However, in the face of growing environmental pressures, it is surprising that battery electric mobility and fuel cell electric mobility have significantly decreased in importance since the corresponding 2013 survey.

The respondents may be underestimating the effect on their business models of changing mobility needs. A majority seem to underplay the importance of connected car technologies and automated driving, even though these developments are at an advanced stage and receiving plenty of industry and media attention.



Gary Silberg
The Americas Head
of Automotive
KPMG in the US

Understanding what consumers want

Concerns over vehicle quality have risen following several high-profile product recalls, with more and more customers now seeking vehicles with longer lifespans. OEMs have to maintain a careful balance between product quality and cost optimization.

The intense cost pressures on suppliers in recent years, combined with the increased use of platform strategies, have raised the risk of quality problems.

Markets of all levels of maturity are seeing growing demand for state-of-the-art technology in vehicles. The relatively low priority assigned to connectivity does not resonate with the growing consumer expectation of ubiquitous access to mobile online services.

The high emphasis on fuel efficiency and enhanced vehicle lifespan shows the rising prevalence of the idea of total cost of ownership (TCO) for private consumers.

Our respondents believe that consumers still have a strong desire

for comfort, which is slightly at odds with the quest for better mileage, as more energy is needed to power the associated technology. In building more efficient vehicles, automakers will have to focus not just on the powertrain, but also on the communications infrastructure.

A further consequence of connected driving is concern over safety, as travelers cede control of the vehicle.

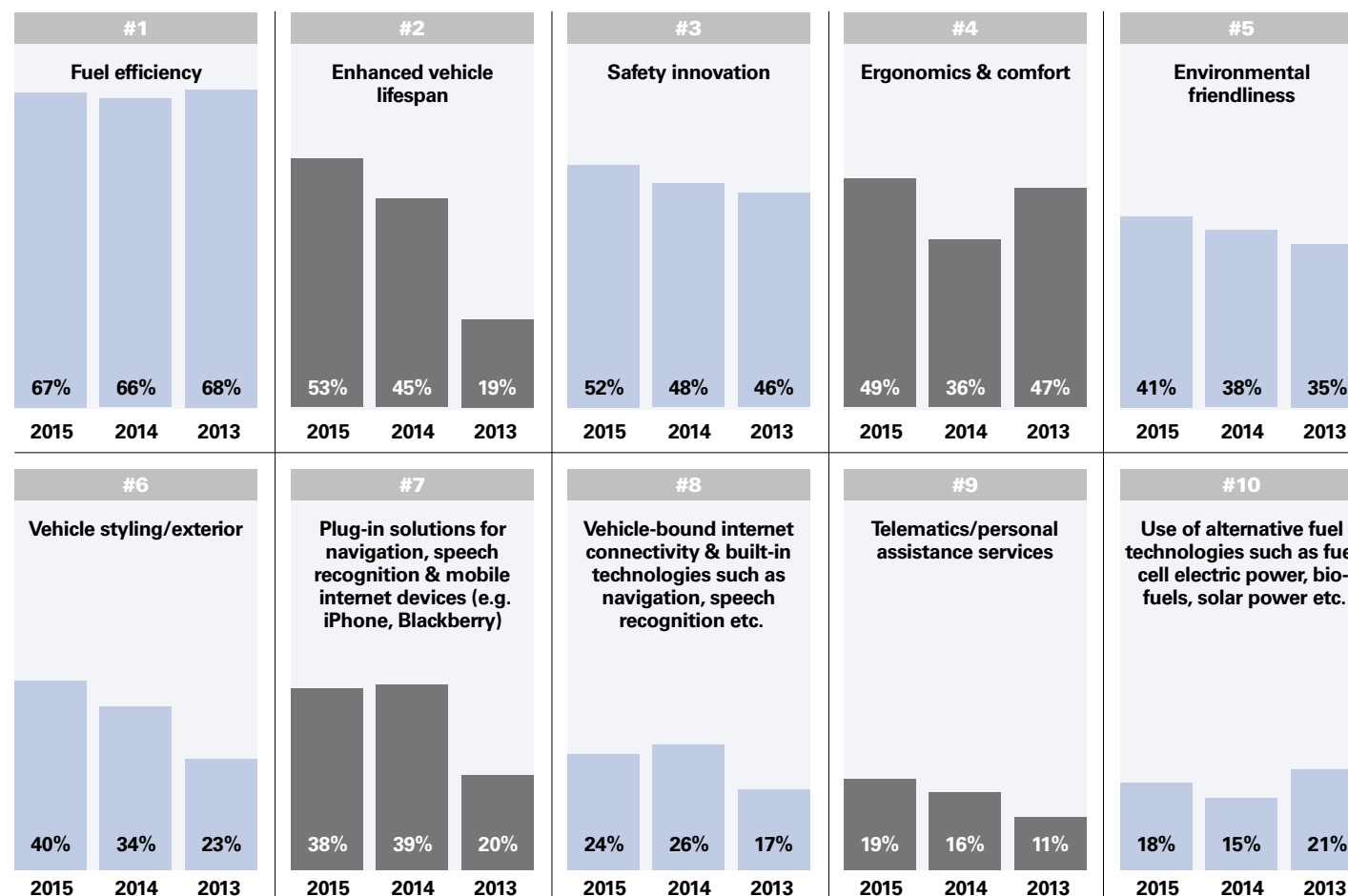
Finally, vehicle styling and exterior has risen sharply in importance between 2013 and 2015. Regardless of what is on the inside, customers still want to buy from trusted brands that reflect their own self-image.



PRODUCT ISSUES

Importance of vehicle features to consumer purchase decisions until 2020

Purchasing choices not yet driven by innovative concepts and online services



Note: % of respondents rating a product issue as extremely important **Source:** KPMG's Global Automotive Executive Survey 2015



Survey results

Auto executives believe that consumers are still fixated on traditional product issues like fuel efficiency, safety and comfort.

One factor that has leapt in importance is enhanced vehicle lifespan, which was ranked just eighth in 2013, but is now the second most important factor influencing the buying decision.

Although both rank relatively low on consumers' wish lists, there is still a preference for plug-in rather than vehicle-bound internet connectivity solutions.

The use of alternative fuel technologies remains a lower priority, suggesting strongly that, like last year's survey, the consumer purchase decision is driven more by the wallet than the conscience.



To find out more details about the views of our respondents by stakeholder group or regional cluster, please access the interactive online version of this survey on kpmg.com/GAES2015.

KPMG REALITY CHECK ON SURVEY FINDINGS AND OUTLOOK



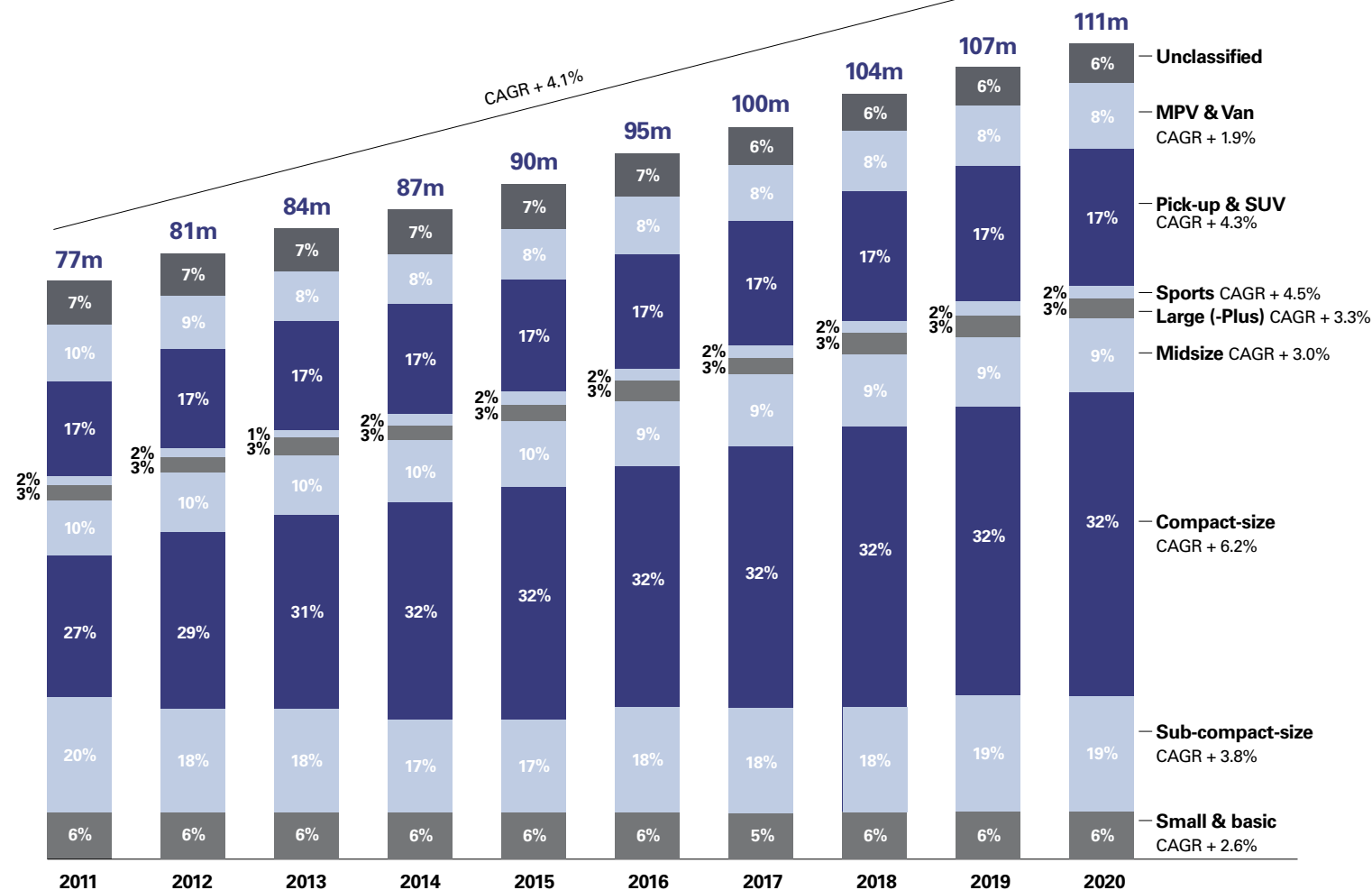
Segment prospects

The good news for the industry is that all segments are predicted to increase in volume. Within the next two years, global vehicle sales will pass the magical 100 million mark and continue to rise until the end of this decade, on the back of increasing demand in emerging markets like China.

Yet, as the next page shows, the majority of auto executives cling to the expectation of growth of small and basic vehicles – so-called budget cars – based upon a historical preference for such automobiles in developing countries. Formal forecasts for light vehicle sales present a different picture compared to that of many of the executives involved in our survey, with small and basic cars not predicted to increase their market share, which is set to remain at just six percent.

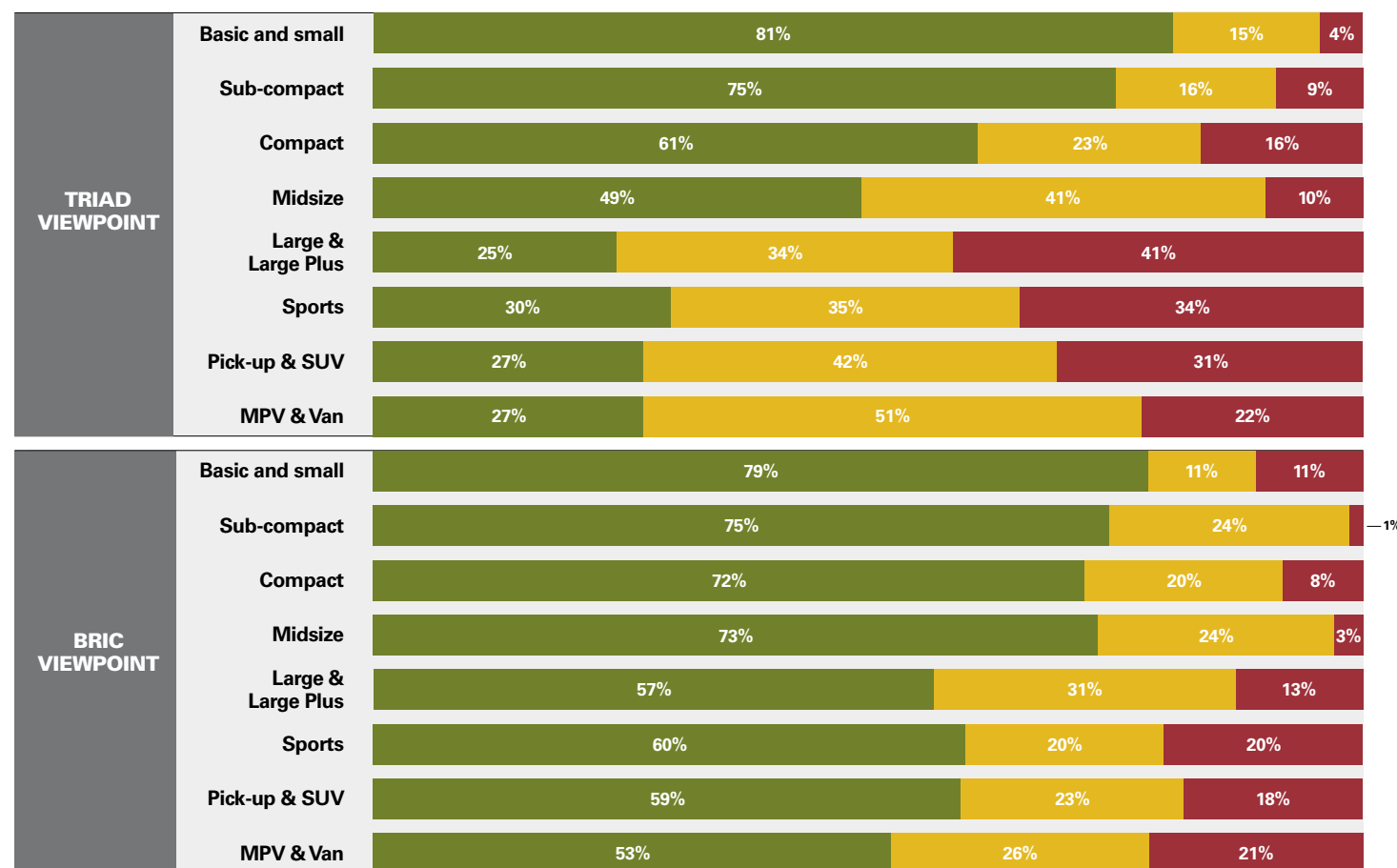
Conversely, the compact-sized, pick-up & SUV and sports segments are forecast to outpace overall market growth rates up to 2020, with compact-sized being the real success story. Almost one-third of all vehicles sold worldwide are expected to come from this segment in 2020. This puts the spotlight on recent efforts by global OEMs to invest in small budget cars in the BRICs and other high-growth territories, with a question mark hanging over the long-term sales volume and margin potential for this segment.

Light vehicle sales forecast by segment market share | 2011-2020



Note: % - segment market share; CAGR – compound annual growth rate; Percentages may not add up to 100 due to rounding; in million units
Source: KPMG's Competence Centre Automotive, LMC Automotive

TRIAD executives no longer believe in large car segments – is this the end of a trend?



Note: Percentages may not add up to 100 due to rounding
Note: % of respondents expecting a car segment's market share to increase/remain the same/decrease until 2020
Source: KPMG's Global Automotive Executive Survey 2015

 Increase  Remain the same  Decrease



Survey results

Most auto executives from the TRIAD markets anticipate a significant drop in sales of larger cars, which could signal the end of an era.

BRIC executives are particularly optimistic, with a majority expecting significant growth in all car segments, although sales of small, basic and medium-sized cars are predicted to increase faster than larger segments like limousines, pick-ups & SUVs.

KPMG viewpoint

The expected fall in sales of larger vehicles is probably rather due to the stricter environmental restrictions than to any decline in popularity of bigger cars. However, buyers are likely to switch back as soon as oil prices drop further (a probable scenario). More efficient powertrains, like hybrids, could also significantly reduce the total cost of ownership.

 **The interactive online version of this survey on kpmg.com/GAES2015 reveals regional differences among auto executives' opinions:**

North American respondents' views are notable and surprising, with 92 percent forecasting an increased demand for small and basic cars.

In China, on the other hand, sports cars sales are expected to grow strongly, reflecting a fast-maturing consumer with evermore sophisticated tastes.

CONSUMER PREFERENCES

Importance of vehicle ownership for personal mobility needs



Survey results

According to the auto executives in our survey – regardless of which part of the value chain they represent – people of all ages will continue to desire their own set of wheels. Although the younger generation is considered more open to alternative mobility solutions, the respondents still feel that under-25-year-olds are keen to possess a vehicle.

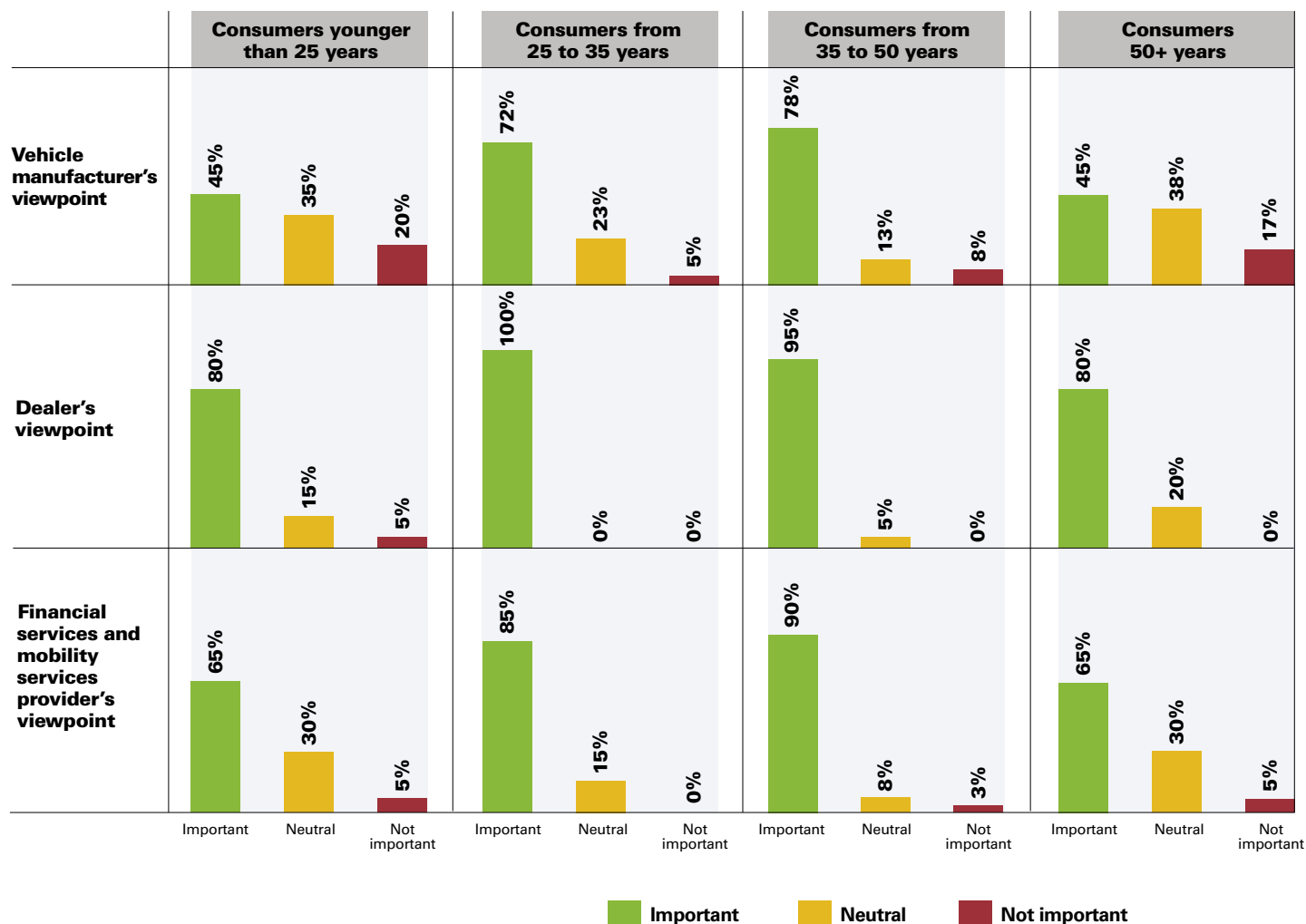
Even the financial services and mobility service providers – whose business model is largely focused around vehicle usage rather than ownership – are suggesting that their customers will still want to own cars.

KPMG viewpoint

Despite a universal preference for possessing one's own vehicle, the main auto players need to consider carefully which user segments are most susceptible to alternatives. With increasing vehicle restrictions in inner city areas, and a greater awareness of total cost of ownership, more and more customers are likely to reappraise whether to have their personal set of wheels. Consequently, all mobility stakeholders should be ready to offer easy-to-use, price-competitive solutions.

The under-25-year-olds may appear to be the most obvious target, but with mature markets in particular experiencing aging populations, those over 50 could also be seeking better and cheaper ways to get around.

Importance of vehicle ownership undisputed across all age groups



Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015

Important = Respondents answering with "extremely important" or "somewhat important"

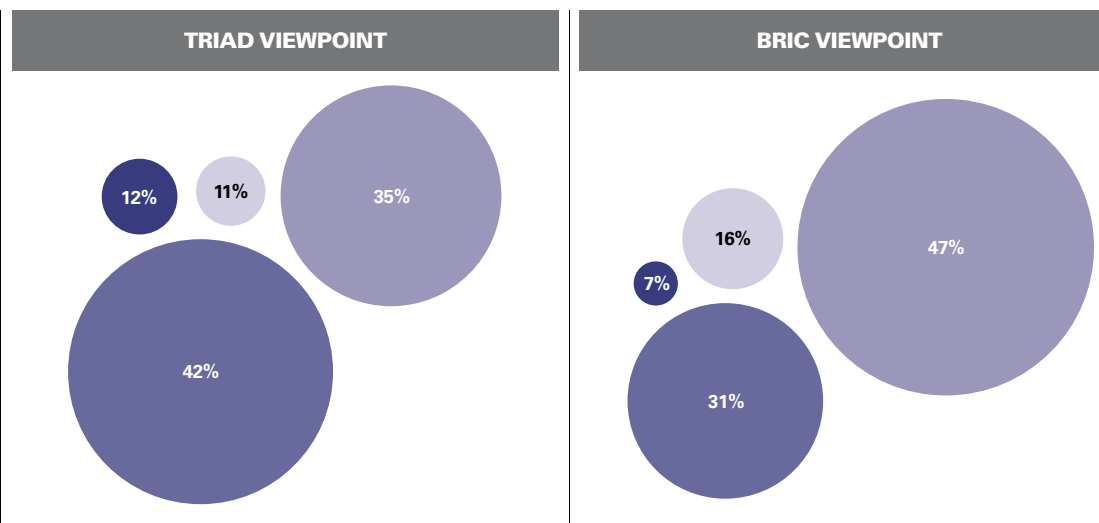
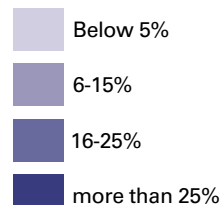
Not important = Respondents answering with "somewhat unimportant" or "not at all important"

ON-DEMAND MOBILITY

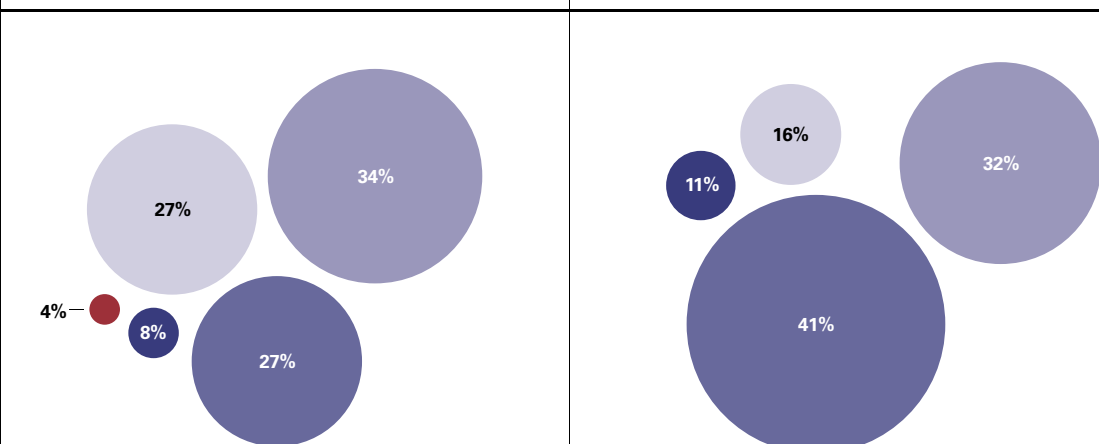
Share of mobility services in 15 years' time, and time horizon for profitability by maturity cluster

TRIAD countries are setting the pace for on-demand mobility services such as car sharing

What do you believe will be the share of on-demand services in 15 years time?



When do you expect mobility solutions to become an important source of profit?



Note: Percentages may not add up to 100 due to rounding Source: KPMG's Global Automotive Executive Survey 2015



Mirko Hilsheimer
Partner
KPMG in China

KPMG Insight The dawn of car sharing in China

The rapid pace of urbanization in China should see a rise in car sharing over the next few years in Tier 1 cities, with Generation Y consumers being the early adopters. Nevertheless, the size of this market will remain small, with Chinese drivers not yet ready to follow countries like Germany, because Chinese consumers still want to own cars.

Car sharing in China has to compete with a diverse range of services, such as short-term car rentals, carpooling and peer-to-peer driver dispatch services. As mobility concepts evolve, we expect to see new approaches to car sharing, much of which target the business-to-business segment, such as Volkswagen's V Rent's car pools that are marketed to various companies. The Chinese market will develop slowly, although the potential is high in a number of cities. With limited financial and political support from local government, the business case for car sharing is unproven.

Technological fit



Are companies betting on the right technologies?

Focusing solely on the further development of the internal combustion engine could mean the main global automakers fall behind their more innovative rivals

As the mobility eco-system becomes more complex, the main players must choose between several different, and in some cases conflicting technologies, raising the stakes for critical investment decisions.

By betting too much and too soon on future trends, automakers could lose existing, loyal customers. But if they fail to gain a foothold in new mobility solutions, they risk falling behind competitors.

Although downsizing the internal combustion engine remains the number one investment priority, such a route leaves automakers vulnerable to increasingly strict environmental regulations in both

established and high-growth markets.

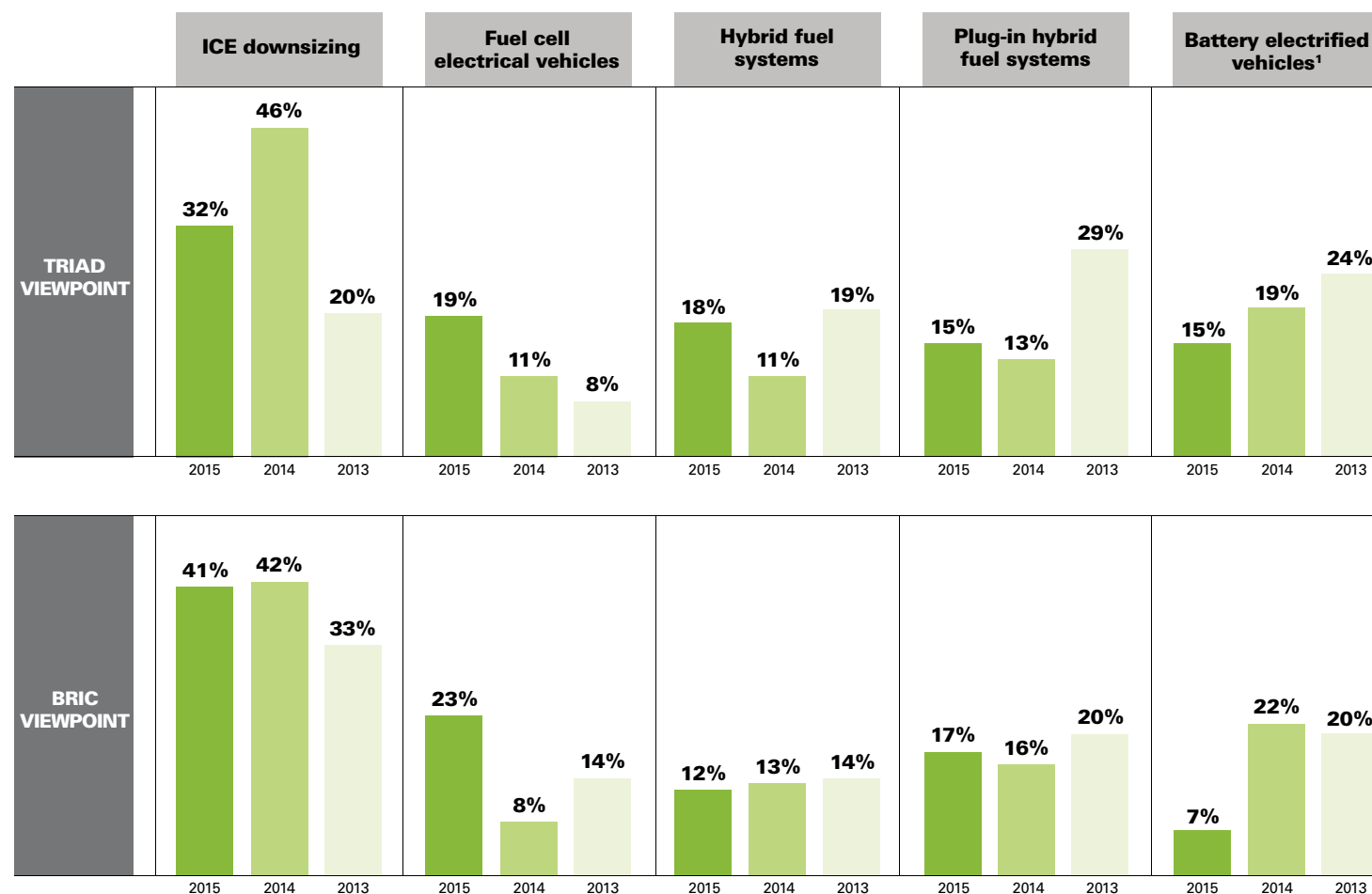
Recent marketing initiatives, supported by wide media coverage, suggest the age of innovative technologies, like fuel cell vehicles and self-driving cars (a last evolutionary step of vehicle connectivity) is rapidly approaching. Despite such signals, most executives in our survey do not anticipate such developments becoming significant in the next 20 years.

INVESTMENT PRIORITIES

Top powertrain technology investment areas up to 2020

Technological fit 

Downsizing is still the number one investment priority



Note: % of respondents rating a powertrain investment area as extremely important

Note: ¹ With and without range extender

Source: KPMG's Global Automotive Executive Survey 2015



Survey results

Despite the promise of new, cleaner technologies, automotive executives still believe downsizing the traditional internal combustion engine is likely to yield the best results in the short-to-medium-term.

When it comes to alternatives, fuel cells have moved ahead of battery electric systems to become the number two priority for investments until 2020.

KPMG viewpoint



The interactive online version of this survey on kpmg.com/GAES2015 reveals regional differences among auto executives' opinions:

GAES2015 reveals regional differences among auto executives' opinions:

In the past 12 months, respondents from TRIAD have reduced their interest in ICE downsizing, which is possibly an acknowledgment of more onerous regulations on CO₂ emissions in their home markets.

This trend is even more profound among the OEM TRIAD respondents, who have already shifted their investment priority from ICE downsizing to hybrid fuel systems.

Such laws are not as well-developed in some emerging markets, hence the relatively higher priority assigned to ICE downsizing among the BRIC auto executives.



Just 4.6% of engine production to be electric

The day when most of us drive fully electric cars is still on the distant horizon. In 2020, less than one in 20 vehicles produced are forecast to be equipped with electrified powertrains, the majority of which will be only slightly electrified full or partial hybrids.

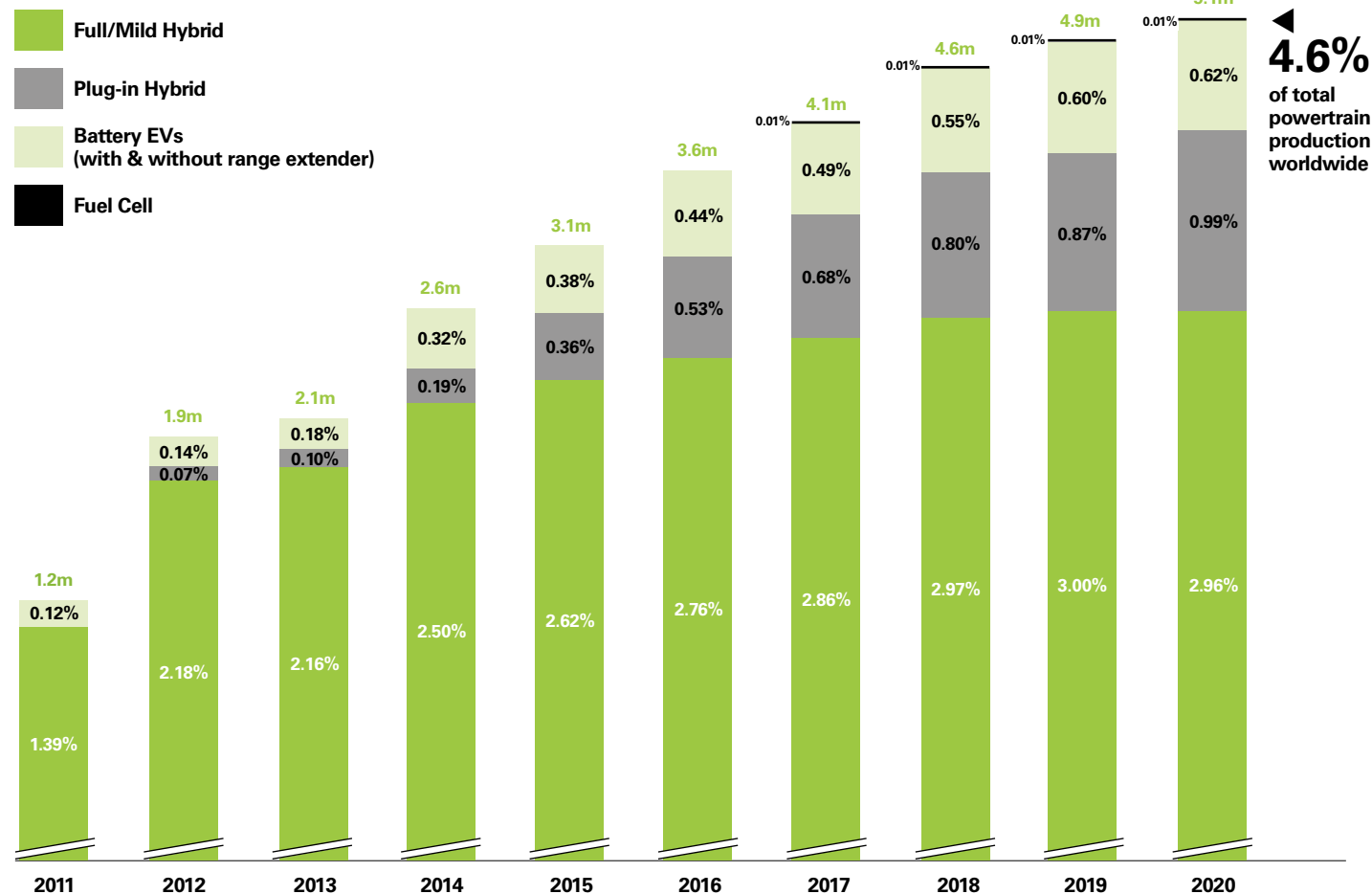
While the survey respondents believe that plug-in hybrids will generate the most consumer demand by the end of this decade, projections show that this segment will make up just one percent of total worldwide engine production in 2020.

The excitement over the potential of fuel cell electric cars is also likely to be overhyped; by 2020 a mere 0.01 percent of cars are likely to be equipped with this type of propulsion – which equates to approximately 16,000 fuel cell drive units per annum.



To find out more details about the electric engine production prospects until 2020 by regional cluster, please access the interactive online version of this survey on kpmg.com/GAES2015.

Electrified powertrain production forecast | 2011-2020



4.6%
of total
powertrain
production
worldwide

Source: KPMG's Competence Centre Automotive, LMC Automotive

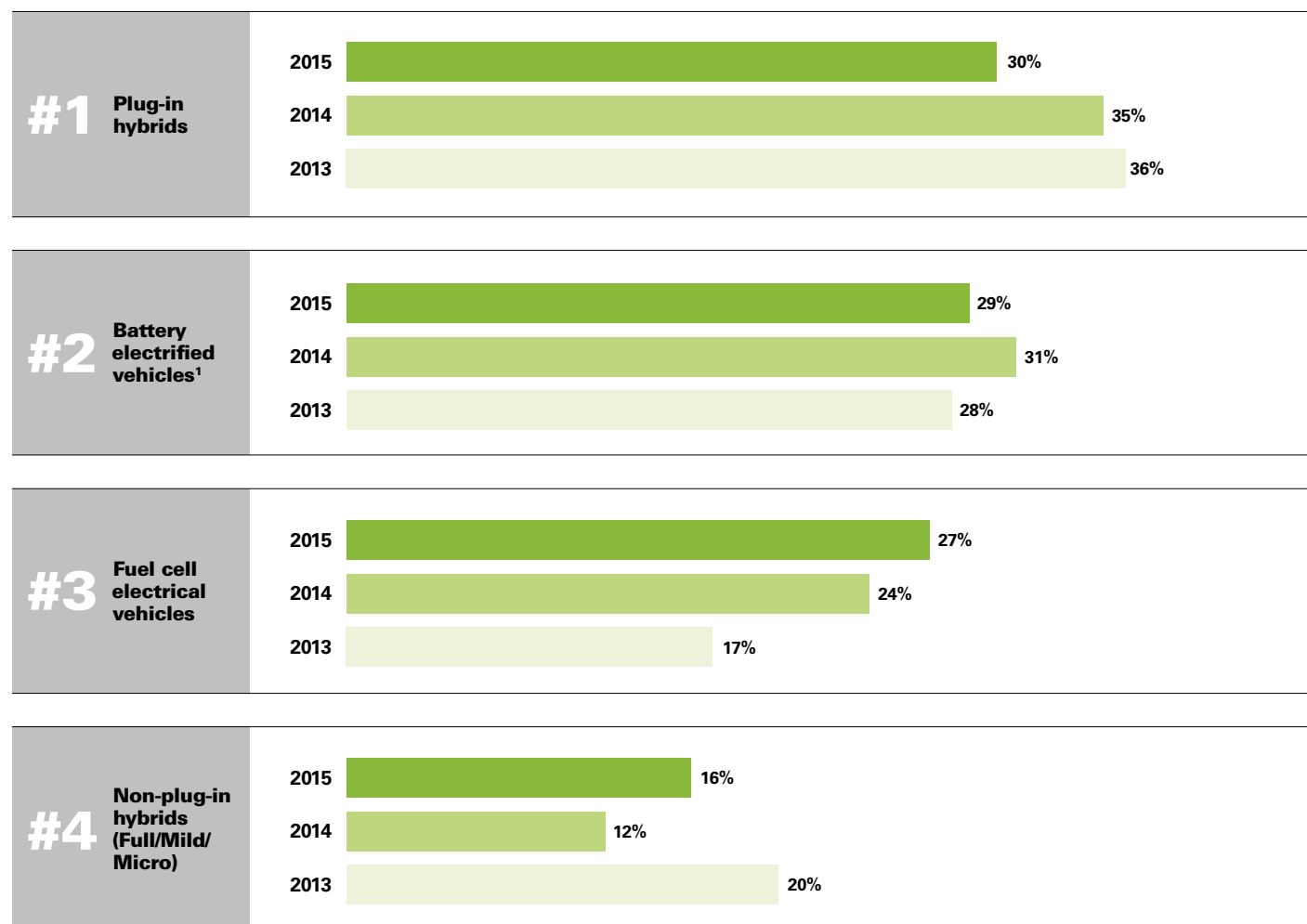
Note: % - share of overall powertrain production volume in respective year; in million units

CONSUMER DEMAND

Electrified propulsion technology attracting the most demand until 2020

Technological fit 

Plug-in hybrids are seen as number one, although losing ground



Note: % of respondents rating an electrified propulsion technology as extremely important

Note: ¹ With and without range extender

Source: KPMG's Global Automotive Executive Survey 2015



Survey results

When asked to rank the most popular form of electric technology by 2020, respondents chose plug-in hybrids, although the gap with battery electrified cars has closed to one percentage point.

Fuel cell electric vehicles are the biggest risers, jumping from just 17 percent in 2013 to 27 percent in this year's survey.

KPMG viewpoint

The announcement that, amongst others, Toyota is to market a fuel cell electric vehicle in 2015 has generated considerable media attention recently, but, as our powertrain forecasts predict, this technology is unlikely to gain more than a tiny proportion of the overall market until 2020.

Without a comprehensive refueling infrastructure, and eco-friendly production of hydrogen from renewable energy sources, fuel cells remain a long-term aspiration rather than a commercial reality in the foreseeable future – especially in less developed regions.



To find out more details about the views of our respondents by stakeholder group or regional cluster, please access the interactive online version of this survey on kpmg.com/GAES2015.



Danny Le
Partner
KPMG in China

What's next for e-mobility in China?

China's government and automotive industry both have high hopes that electric cars will signal a new era in the world's fastest growing car market. Not content with catching up with more established players in traditional combustion engine technology, China aspires to leapfrog rivals to become the premier market for e-mobility. With hard work and not a little innovation, forecasts suggest that China will meet this objective by 2020.

Vehicle and battery cell production is still in its early stages, with a need for Chinese firms to improve capabilities in design and development of core e-vehicle components. Current electric models from domestic OEMs have not proven particularly popular with consumers. Regardless of these humble beginnings, China has by far the world's largest R&D budget, indicating a patient, mid-to-long-term perspective.

Despite strong political funding for programs across multiple cities, and a huge population seeking greater

mobility, demand for electric-powered autos is currently restricted to small fleets for a few government institutions. However, growing pressures from air pollution, rising fuel costs, strict emission standards, and rapid urbanization should ensure that the huge potential for electric cars is eventually realized, although this will require further innovation and disruption across the automotive eco-system.

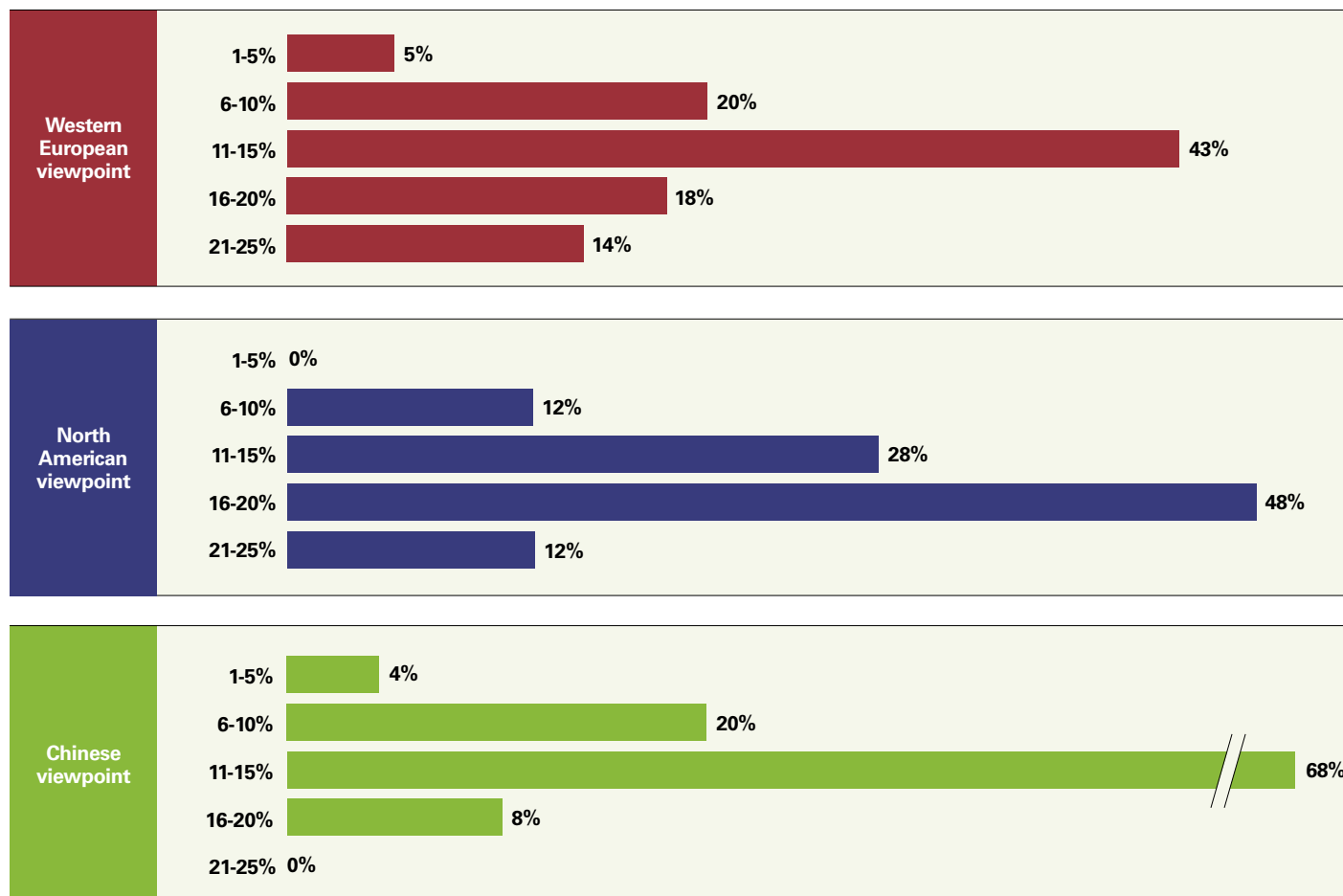


E-CAR MARKET PENETRATION

Share of electrified vehicles among overall new car registrations by 2025

Technological fit 

At least every tenth vehicle sold in 2025 to be electric, according to auto execs' opinions



Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015



Survey results

Nearly half of all North American respondents expect the share of e-vehicles to be between 16 and 20 percent of overall new car registrations in 10 years' time.

This is a more optimistic view than Western European auto executives have, nearly half of whom believe that the share will be between 11 and 15 percent.

Chinese automakers express similar sentiment. More than two-thirds of these respondents believe the share of e-vehicles in their home country will be between 11 and 15 percent by 2025.

KPMG viewpoint

Electric technology has yet to deliver on its early promise, and consequently most companies have focused their efforts on improving ICE efficiency.

Nevertheless, the results show that the auto executives still feel that e-cars can thrive, although investors continue to face considerable uncertainty. The biggest drivers for e-mobility are likely to be regulations and tax incentives, rather than actual consumer demand, as governments in emerging as well as mature markets strive to create low carbon economies.



Seung Hoon Wi
Asia Pacific Head
of Automotive
KPMG in Korea

Self-driving is not a future dream but today's reality

When can we expect to see perfect self-driving cars? Most available forecasts suggest that, by 2020, up to 10 percent of all mass-produced vehicles will be driverless.

In the meantime, we are already enjoying many of the benefits of autonomous driving, including parking assistance, alerts for approaching vehicles, people and objects, traffic congestion assistance, lane departure warnings and cruise control. There is also an increasing convergence of sensor- and connectivity-based solutions that mimic the human senses to instruct the car to act as its driver would choose, and make decisions based upon information from the surrounding environment. In this respect, self-driving cars can be positioned as a safer form of motoring, reducing the risk of driver error.

These vehicles are far more than just another way of getting around. They generate huge amounts of valuable data about travelers' habits and characteristics, creating new

business opportunities to target consumers with infotainment, education, healthcare and other services.

Before such vehicles can become ubiquitous, a number of issues must be clarified, such as cost, legal responsibility, security and privacy. The substantial investment required for this technology could arguably have a very positive return, in terms of increased safety, higher fuel efficiency, and shorter, more productive journeys, where occupants not only get to their destination faster, but can also work along the way.

As the future rapidly becomes today's 'new normal' and consumers get accustomed to hands-free driving, process power – rather than horsepower – may become the biggest differentiator.

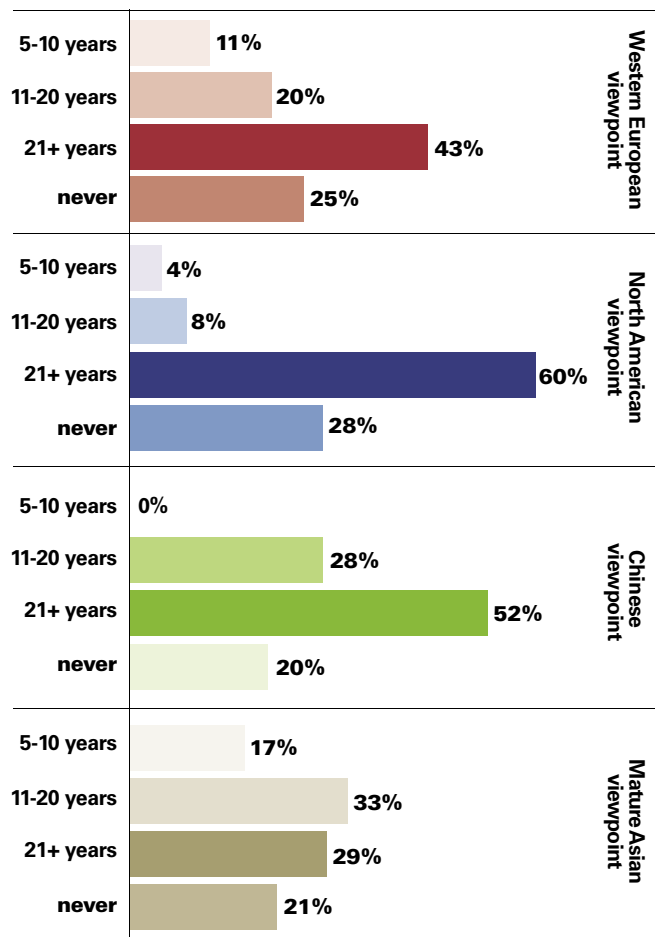


CONNECTIVITY: THE NEXT BIG THING

Self-driving cars: the final evolutionary step of connectivity

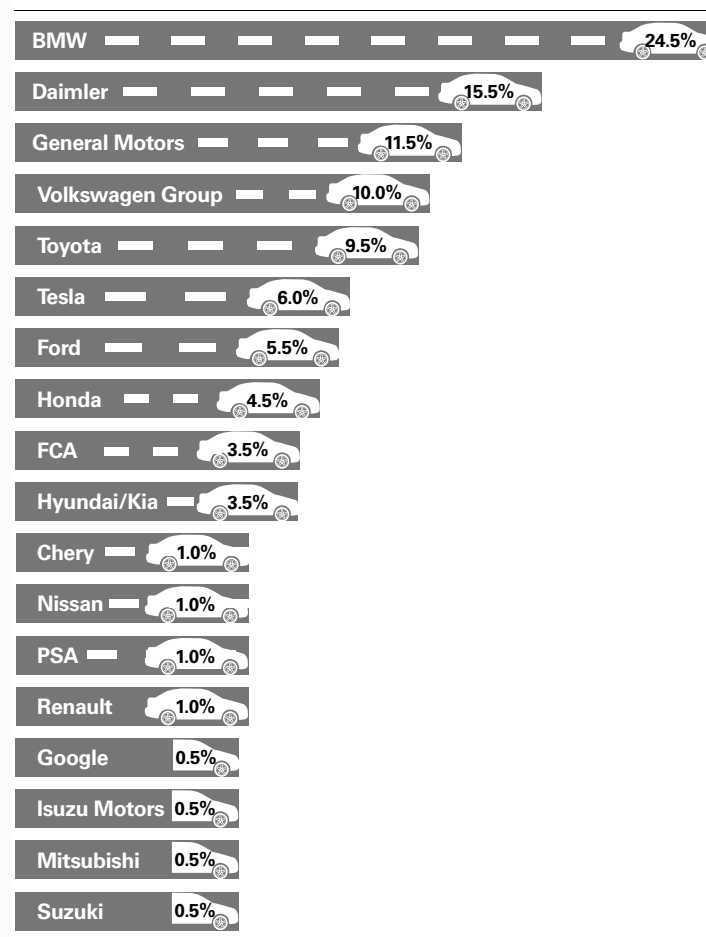
Technological fit 

Autonomous driving's breakthrough is further away, according to auto executives



Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015

Global OEMs seen as leading in the field of connectivity and self-driving cars



Note: Industry players ranked #1 according to respondents, sorted in descending order
Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015



Survey results

A commercial market for self-driving cars seems no closer, even though initial pilots have produced positive results, with plenty of coverage in the mass media.

Auto executives from Western Europe, North America and China are the most pessimistic, and feel it will take more than 20 years before these vehicles are commonly seen on our roads. In Japan and Korea, there is greater hope, with an expected time span of 11 to 20 years.

KPMG viewpoint

Self-driving cars are the final step of true connectivity, enabling car occupants to treat their vehicles as true extensions of their homes, offices or smartphones, freed from the responsibility of driving. The daily commute will offer customer relationship owners incredible opportunities to tap into additional revenue streams.

This market will not succeed without overcoming critical legal and liability issues associated with driverless motoring.

With potentially fierce competition from information, communication and technology (ICT) companies, traditional OEMs must ask themselves whether they are in-line to be the pace setters in this sector.

The next big thing – a look into the future



Dieter Becker
Global Head of
Automotive
KPMG International

Automakers need to understand what drives customers' behavior

Communication technologies such as car-2-car, car-2-infrastructure or car-2-home may bring significant benefits to consumers, but these factors, known collectively as the 'internet of things' simply represent a commodity. To capture the real value of connectivity, vehicle manufacturers have to use the power of data to get inside customers' heads, understand what drives their behavior and adapt business models to ever-smaller target groups of like-minded individuals.

Connected car technologies can be a crucial interactive media, especially when linked to location, offering not just traffic guidance, but also useful local retail or leisure options, personalized news and entertainment, and other services – all of which can provide a healthy revenue stream. Ultimately, it should be possible to predict what products and services the customer is most likely to want.

To move to the lucrative upper right-hand quadrant (refer to chart on page 25) – the 'Internet of Behavior

– and harvest the undoubted potential of data, OEMs should consider customers' lives as a whole, rather than viewing them as 'drivers' only, towards building a personal relationship to increase loyalty.

Technology also enables predictive product analytics, where automakers can constantly monitor vehicle performance and component wear and tear. Such a strategy is supported by modularization and standardization, which enables more cost-efficient production and makes it easier to replace or adapt different parts of the automobile.

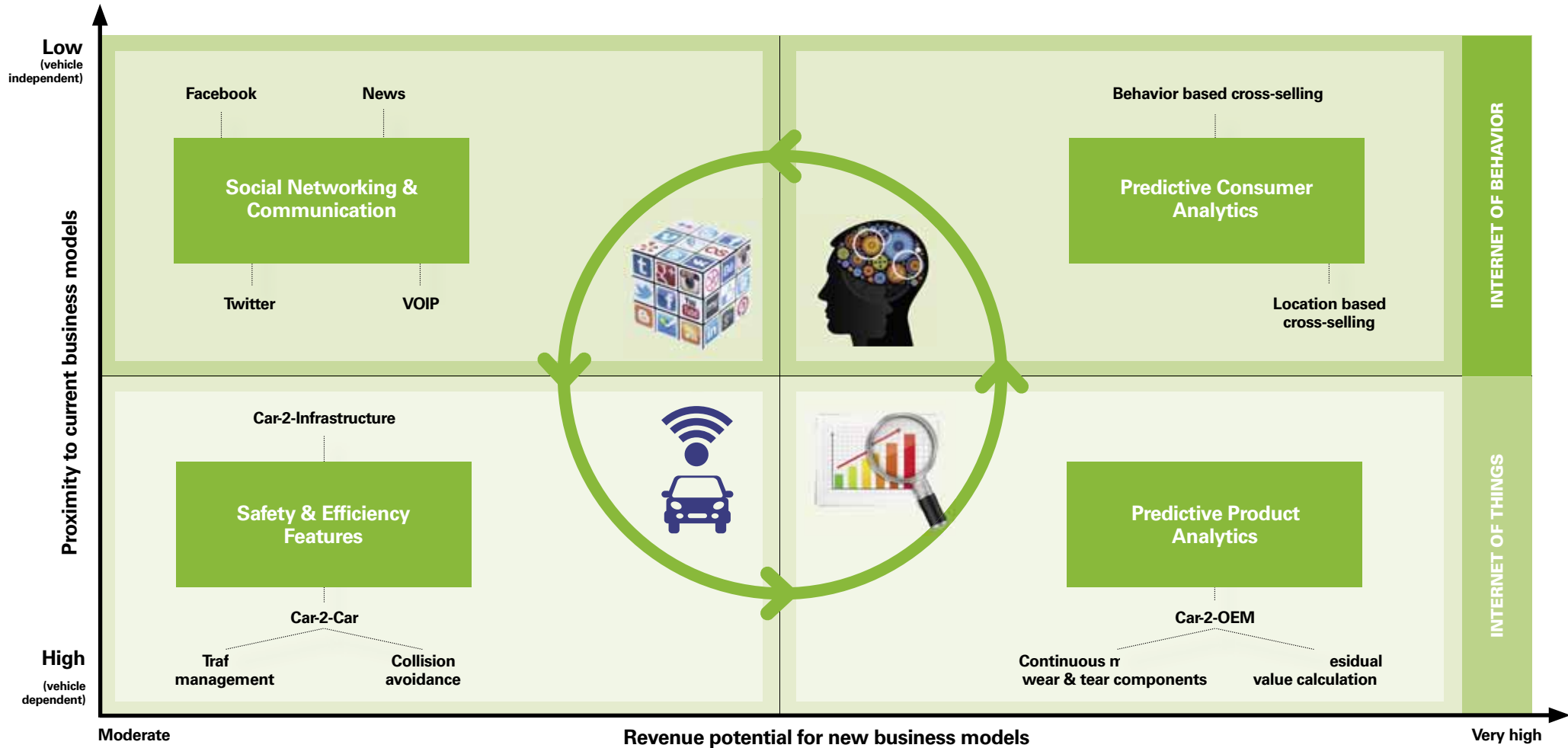
As a warning: development cycles can differ widely between hardware and software, so these two areas should be managed separately, with a central interface to ensure compatibility.



THE NEXT BIG THING

Increased connectivity means increasing convergences between largely separated industry sectors

Technological fit 



Source: KPMG Competence Centre Automotive

Business model readiness



Is the industry set for an unstable mobility eco-system?

As more players join the mobility market, it is vital for companies to both diversify and differentiate to maintain success

The unpredictability of new technologies makes it hard to plan for disruptive changes such as e-vehicles, connectivity and autonomous driving. However, an evolving mobility culture, which eschews traditional car ownership in favor of more flexible options, means that automotive companies must prepare for 'black swans' on the horizon.

As the mobility eco-system broadens, automakers can no longer rely on organic growth, and will have to build strategic alliances

crossing sector boundaries, and think 'out of the box' to find ways to intelligently expand value chains and diversify. A unique brand becomes even more critical, to differentiate yourself in a market teeming with new competitors from other sectors and offering customers a wider range of products and services.

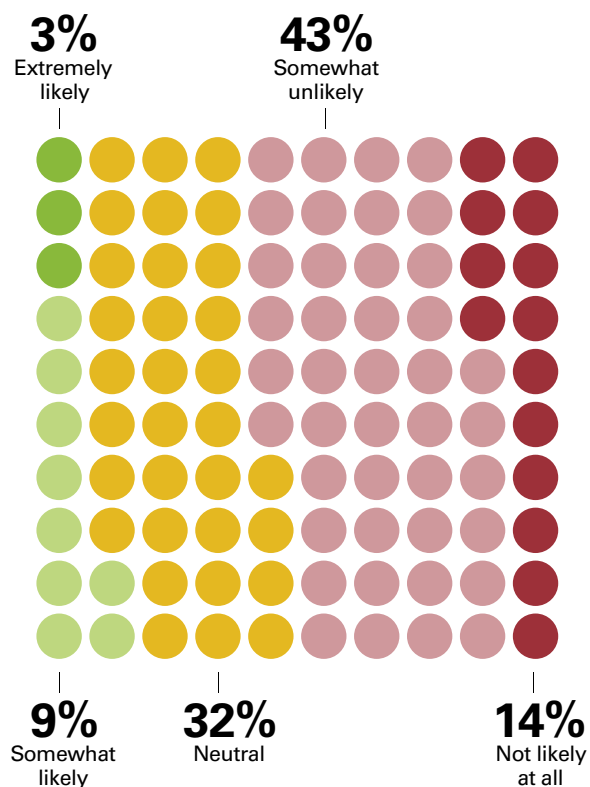
BLACK SWAN AHEAD?

Likelihood of major business model disruption by 2020

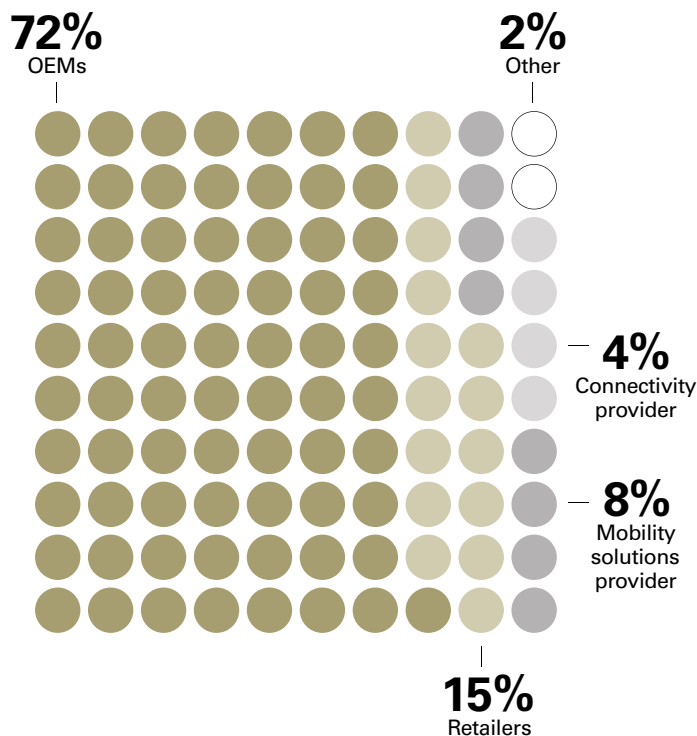
Business model readiness 

No major change ahead, as OEMs are expected to continue to own customer relationships

How likely is a major business model disruption in the next 5 years?



Who will be the 'owner' of the customer relationship in the next 5 years?



Survey results

Over half of all auto executives think it is somewhat unlikely or not likely at all that a major disruption to existing business models will occur in the next five years, with just approximately one in 10 expecting a major change.

This conservative outlook extends to expectations of market dominance, with almost three out of four respondents expecting OEMs to continue owning the customer relationship until 2020.

KPMG viewpoint

As an alternative perspective, nearly one-third confess to being neutral over the likelihood of a disruptive event, implying that change is at least at the back of many executives' minds.

Breakthroughs such as mobility services and e-vehicles may be a few years away, but that does not mean that these potential 'black swans' can be taken off the senior management agenda.

Arguably, the current period of stability could be a great opportunity to prepare for a very different future. If the main auto companies fail to get ready now, they risk being overtaken by new competitors, such as connectivity service providers, and lose those all-important customer relationships.

Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015



Roger Bayly
Partner
KPMG in the UK

Spotting a black swan in the dark

As this year's survey demonstrates, the world inhabited by future auto customers is changing fast. It is no surprise, then, that relationships with brands and mobility providers are up for grabs, with emerging consumers more inclined to trust a tech company than an OEM to provide an autonomous vehicle.

Given the potential value streams from connectivity and associated services, it is easy to see why black swans are flying overhead in the form of new brands and disruptive services and products.

But – and this is the big “but” – will these new offerings come from existing, major OEMs or from some other source? And, will key players from converging industries want to cooperate, compete or even position themselves at the top of the new value chain?

With these challenges looming, OEMs need to ask themselves some searching questions:

How do I think about my brands from a consumer rather than an automotive perspective - to attract the new generation of ‘digital natives’?

How do I learn to be a high value, branded services business, while

making the most of my strong product and engineering heritage?

Should I build, buy or partner to achieve this goal?

How do I change my vehicle and system architectures to enable me to refresh products in a cycle measured in months rather than years?

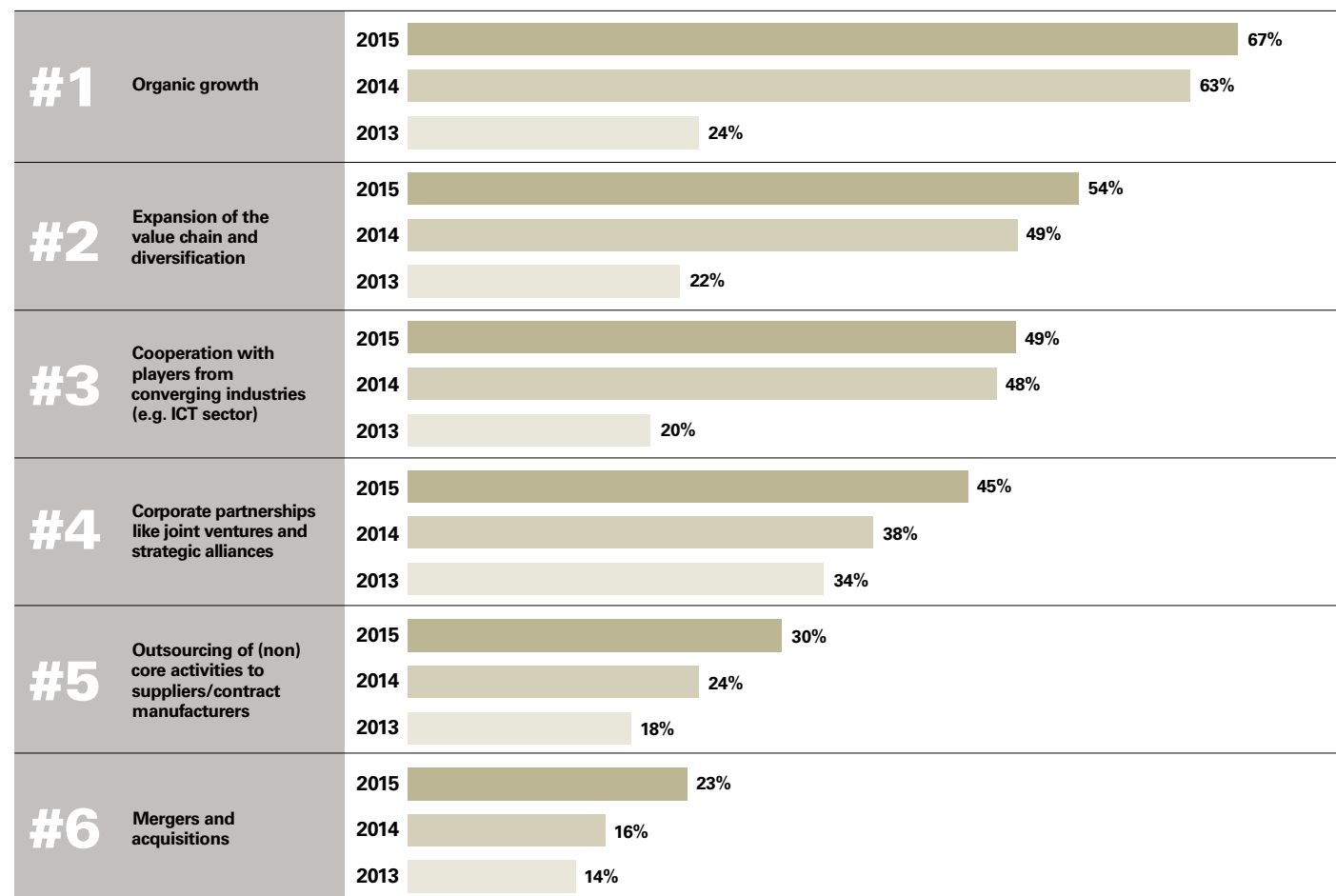
Who do I work with to develop these technologies and how do I reconfigure my product development capabilities?

How do I create the investment capacity to do all of this, while continuing to develop and deliver today's products and maintain returns to shareholders? What level of resilience to market, event and volatility risk should I maintain during this period?

Member firms are seeing our clients across the automotive value chain starting to address these questions, and the next few years are going to be fascinating.



Organic growth considered the number one strategy for future success



Note: % of respondents rating a business and investment strategy as extremely important

Source: KPMG's Global Automotive Executive Survey 2015



Survey results

Two-thirds of respondents see organic growth as the most important strategy. In second place is expansion of the value chain and diversification, as companies move into new markets such as mobility services.

Interestingly, cooperation with converging industry players is ranked ahead of partnerships with other automakers, reflecting the growing importance of technology and the rising influence of new competitors.

KPMG viewpoint

Organic growth alone will not meet the needs of tomorrow's mobility culture, and OEMs must shorten innovation cycles to bring new products and services to the market. In the crucial battle to attain customers' loyalty, automakers will have to cooperate with companies offering innovative technologies and services. This influx of new players makes it much harder to keep control of the interface with drivers and passengers.

Mergers and acquisitions (M&As) with peers are a lower priority, given the associated cost and risks. Even if they are inclined, traditional automakers may struggle to achieve M&A investments in the connectivity and infotainment sector, due to the financial strength of the likes of Apple and Google.

READINESS FOR AN UNSTABLE MOBILITY ECO-SYSTEM

Most significant mobility stakeholders over the next 10 years



Survey results

A vast majority of respondents believe that the established premium and mass market OEMs will continue to dominate the automotive landscape over the next decade.

However, in an unstable mobility eco-system, Tier 1 suppliers are feeling the warm breath of new competitors, with brands from the technology and communication industry now considered equally likely to play a role in the mobility space.

KPMG viewpoint

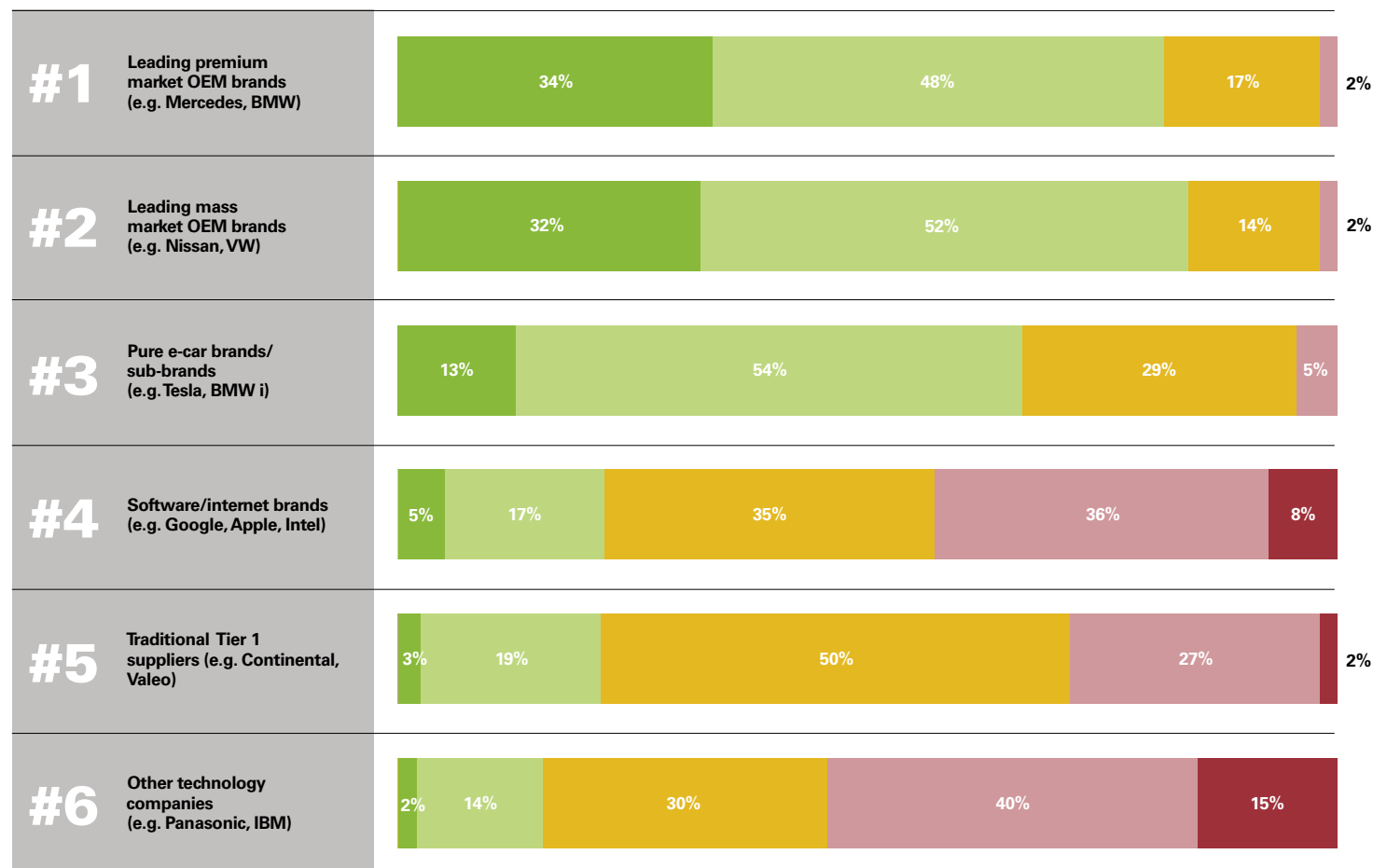
As the mobility culture evolves, strong brand image and a premium positioning are the best defense against new entrants.

If the ICT sector is not yet able to displace traditional automakers, then it is certainly intruding into the territory of Tier 1 suppliers, as hardware components become evermore commoditized, and software and services rapidly gain in importance.



To find out more details about the views of our respondents by stakeholder group or regional cluster, please access the interactive online version of this survey on kpmg.com/GAES2015.

Traditional automotive players set to prevail – but are Tier 1 suppliers most under threat?



Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015

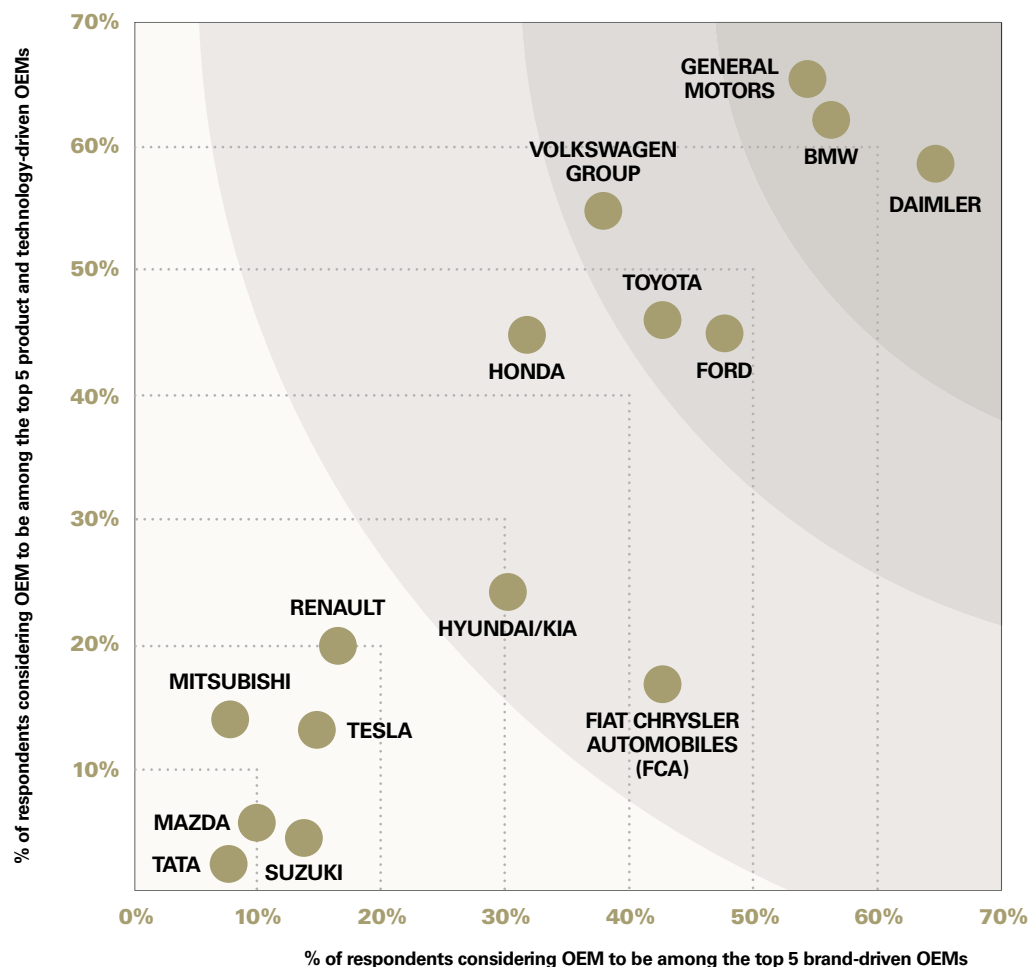


READINESS FOR AN UNSTABLE MOBILITY ECO-SYSTEM

Automotive OEMs that are considered to be best prepared

Business model readiness 

Global players such as Daimler, BMW and GM are considered to be the best prepared



Source: KPMG's Global Automotive Executive Survey 2015



Survey results

In a fast-changing eco-system, Daimler is seen as the number one brand, closely followed by GM and BMW. These companies have successfully positioned themselves as product- technology- and brand-driven.

At the other end of the scale, newcomers such as Tesla still face a huge uphill struggle to establish a universally strong brand and technology-oriented image. Despite its investment in innovation and its undeniable large achievements regarding e-car technology, the gap between established brands and newcomers could still take longer to close.

KPMG viewpoint

In an unstable mobility eco-system, the relationship between brand, products and technology is becoming more complex. As products and technologies become more commoditized, brand reputation could be the decisive differentiating factor.

As mobility players contemplate their brand strategies for this brave new world, they could consider taking a look at the direction taken by highly ranked OEMs like BMW and Daimler and their approaches to finely balance their activities.

STRATEGIES TO SURVIVE

Who remains independent, needs to strengthen alliances or has to merge in order to survive?



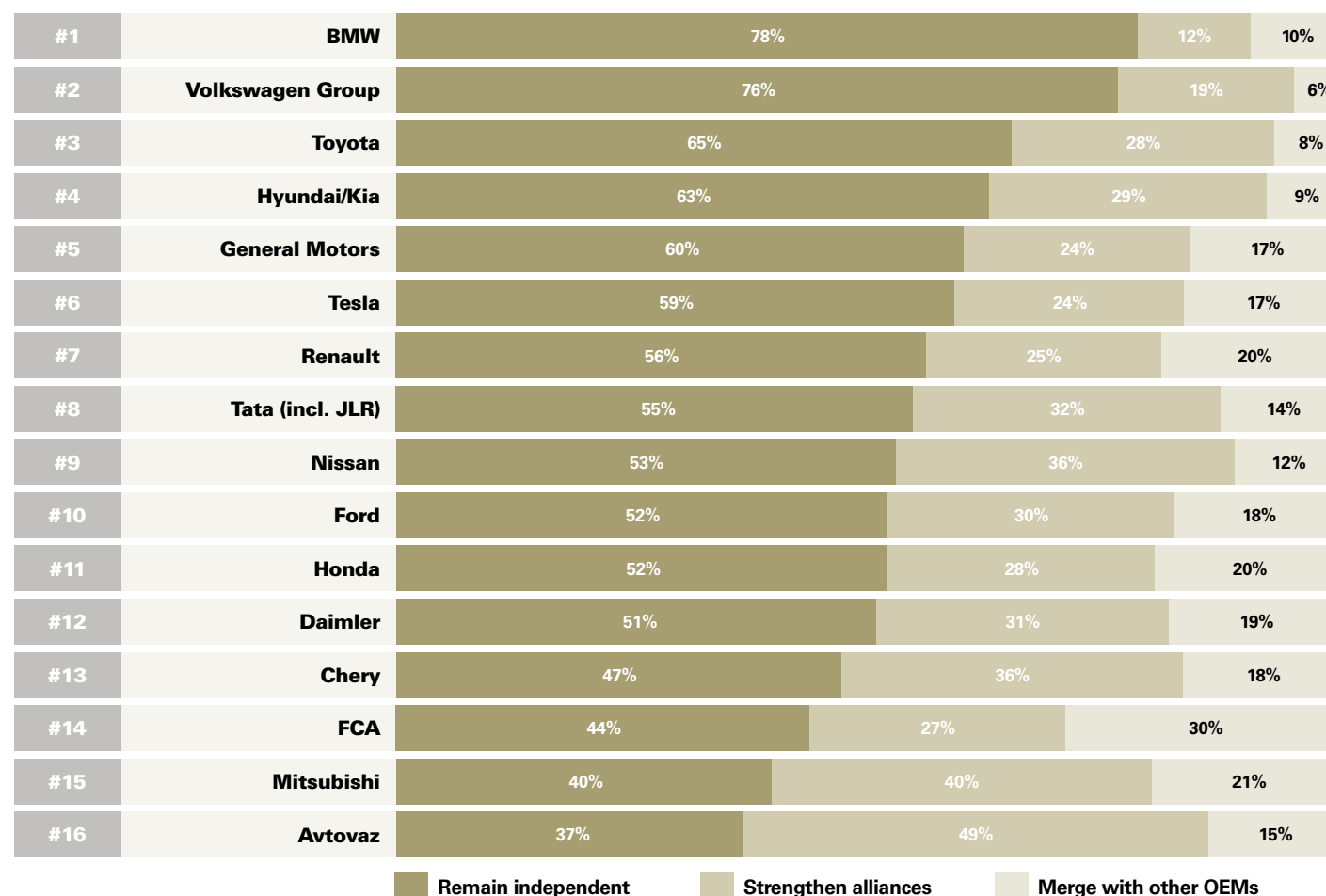
Survey results

As they consider future strategies, respondents see the big OEMs primed to go it alone, rather than partner with others. Even smaller newcomers like Tesla are expected to remain independent, despite the high costs of building a global brand and reach.

Executives from emerging market OEMs, however, are more likely to favor stronger alliances, to achieve the critical mass necessary to compete effectively. This is mainly due to their lack of sophisticated products and solutions, making them highly reliant on know-how transfer from established global technology leaders from Western countries, through cooperation.

The Chinese company considered best equipped to stay independent is Chery, which, interestingly, has a greater global reach than its domestic counterparts, making it China's largest passenger vehicle exporter.

For globally established OEMs, remaining independent is the number one survival strategy



Note: Percentages may not add up to 100 due to rounding. Sorted descending by % remain independent **Source:** KPMG's Global Automotive Executive Survey 2015

OEMs with limited global reach may have the greatest need for mergers

#17	Suzuki	37%	40%	24%
#18	Mahindra Group	35%	47%	19%
#19	BAIC	34%	48%	19%
#20	SAIC	33%	39%	29%
#21	BYD	32%	46%	23%
#22	Dongfeng	31%	34%	36%
#23	Brilliance-Jinbei	31%	52%	18%
#24	PSA	31%	36%	34%
#25	Changan	25%	51%	24%
#26	Geely	24%	37%	40%
#27	Great Wall Motor	23%	42%	36%
#28	Mazda	22%	36%	43%
#29	FAW	20%	44%	36%
#30	Jianghuai Automotive	20%	42%	39%
#31	Isuzu Motors	18%	36%	47%
#32	Fuji Heavy/Subaru	12%	38%	51%

 **Remain independent**
 **Strengthen alliances**
 **Merge with other OEMs**



Survey results

Respondents believe that certain Japanese OEMs – notably Mazda, Isuzu and Fuji Heavy/Subaru – are more disposed to mergers. This is probably due to a lack of growth potential in their focus markets, forcing them to look further afield to expand.

KPMG viewpoint

Although the stronger, established OEMs with global reach are better positioned to thrive as independent companies, the instability of the future mobility eco-system could necessitate a rethink.

Given the need to bet on a range of different technologies and business models, alliances could spread the cost and risk, and bring valuable new intellectual property. This may even apply to largely independent global players for whom cooperation is not an immediate priority.



More details on the past year's results can be found in our interactive online version of the survey on kpmg.com/GAES2015.

Compared to the 2014 survey, this year's results are more optimistic. In 2014, only six companies were thought to have the strength to survive independently, a figure that has risen to 12 in 2015.

Note: Percentages may not add up to 100 due to rounding. Sorted descending by % remain independent **Source:** KPMG's Global Automotive Executive Survey 2015

Prepared to harvest



Who is best positioned for sustainable growth?

In the medium term, the traditional OEMs are forecast to maintain their dominance, but it's vital they prepare for a more disruptive future in the long term

As the survey indicates, the winners in the new mobility culture will be those companies that achieve the right balance of marketable technologies and apply the appropriate business models to cater to increasingly tech-savvy heterogeneous customer groups.

The existing order is not about to be shattered, with the top 10 OEMs all forecast to be from mature markets in 2020, and German manufacturers continuing to dominate the premium end. The main changes in market position involve Volkswagen potentially stealing the number 1 mass market spot from Toyota as of 2016, and Tata rising

on the back of strategic acquisitions of JLR (Jaguar Land Rover). Hyundai's continued rise in market share expected by the majority of respondents, on the other hand, is predicted to stall somewhat according to recent market forecasts.

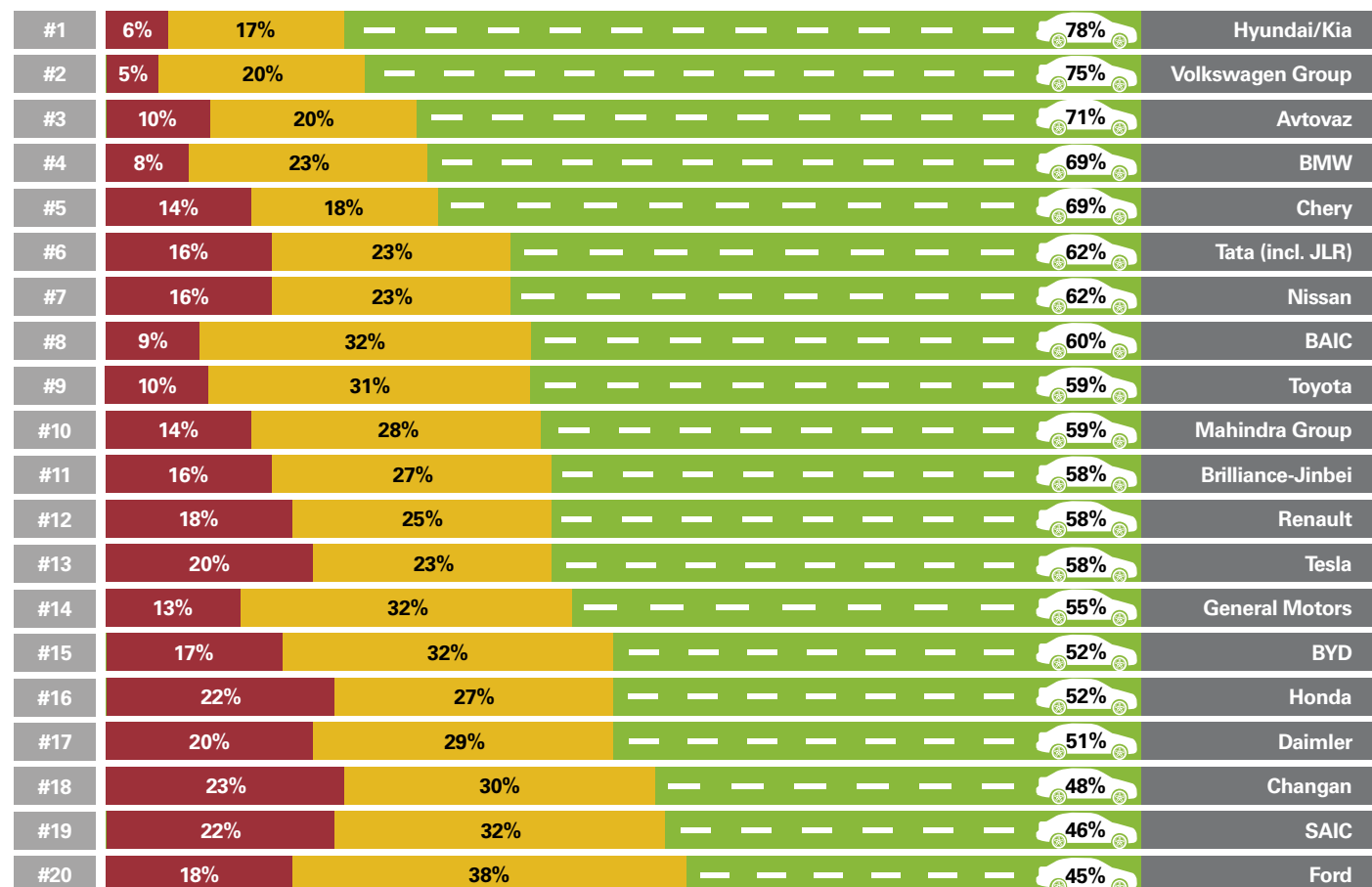
Nevertheless, the traditional OEMs will need to check their blind spots in a proactive way as the tremendous growth in new technologies and customization options is likely to completely change the automotive eco-system as we know it today.

FIT AND READY TO HARVEST

Top 20 OEMs expected to increase their global market share until 2020

Prepared to harvest 

Executives are most optimistic about Hyundai's market share increase



Note: Percentages may not add up to 100 due to rounding
Source: KPMG's Global Automotive Executive Survey 2015

 Decrease  Remain stable  Increase



Survey results

Hyundai/Kia is expected to gain market share in the next five years, according to this year's respondents.

Just behind is Volkswagen with its nearest rivals Toyota and GM in ninth and 14th place respectively.

Of the Chinese OEMs, Chery is once again the most highly rated, while another company from a high growth market, Tata, performed promisingly, ranked in sixth place.

KPMG viewpoint

The ranking of who is going to win or lose market share has always been a frequently quoted result in the history of our Global Automotive Executive Survey. In order to give the opportunity to compare the survey results with the most recent market forecasts we have included a detailed reality check on the survey findings on the following two pages.

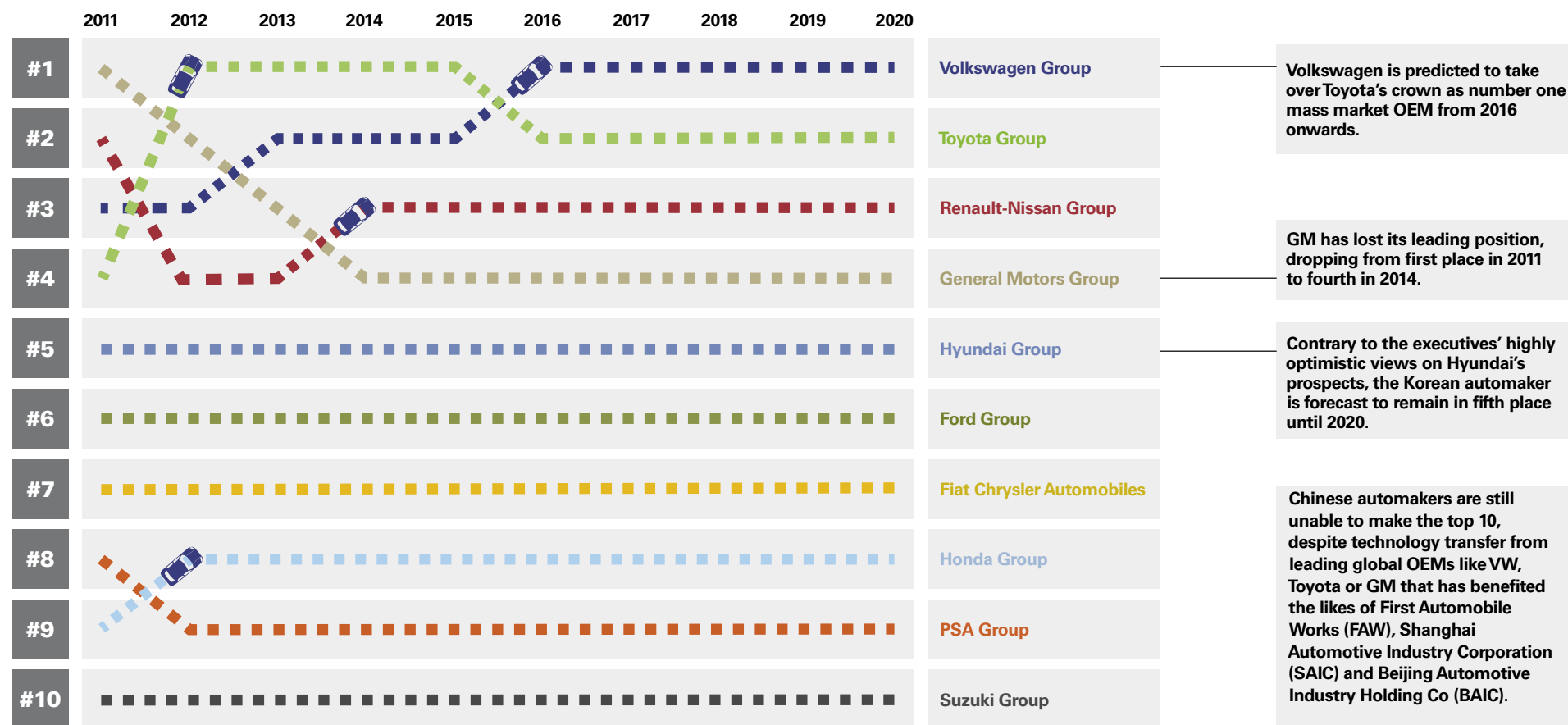


To find out more details about the views of our respondents by stakeholder group or regional cluster, please access the interactive online version of this survey on kpmg.com/GAES2015.

KPMG REALITY CHECK ON SURVEY FINDINGS AND OUTLOOK

Leading mass market OEMs – Sales ranking 2011-2020

Not a single emerging market OEM is predicted to make the top 10 by the end of this decade in the mass market segment

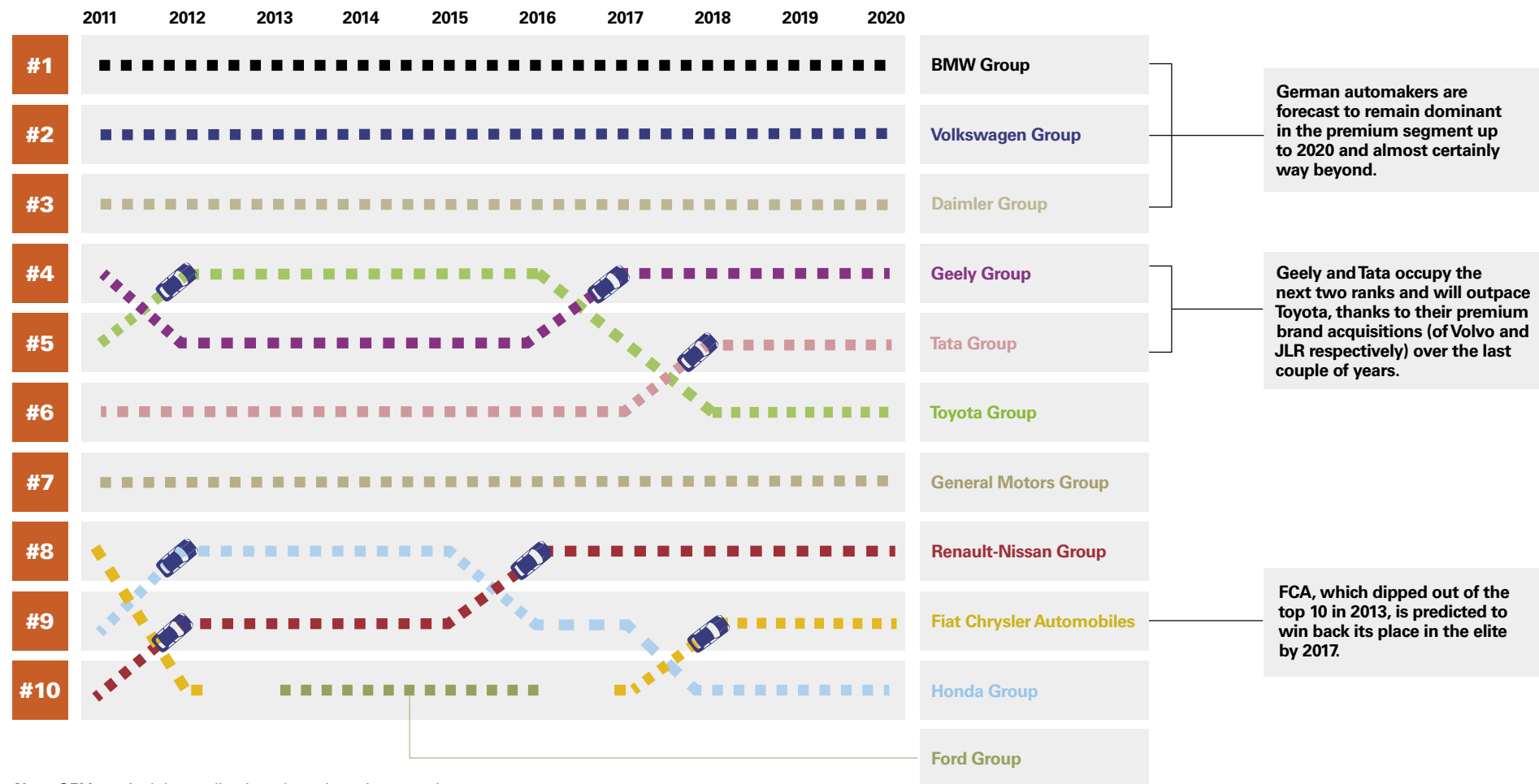


Note: OEMs ranked descending by sales volume in respective year

Source: KPMG Competence Centre Automotive, LMC Automotive

Leading premium market OEMs – Sales ranking 2011-2020

German automakers are set to continue their domination of the premium segment



Note: OEMs ranked descending by sales volume in respective year
Source: KPMG Competence Centre Automotive, LMC Automotive

KPMG Global Automotive thought leadership

KPMG's dedicated global Automotive team works with some of the world's largest and most successful auto companies.

Our Automotive network, linking more than 4,000 professionals within our member firms around the world, brings together KPMG Audit, Tax and Advisory professionals to help us take a comprehensive approach to clients' activities within the industry.

Our services focus on assisting member firms' clients address major issues and market priorities facing the automotive industry, including:

- Converging industry topics (bridging knowledge between industries)
- Operating business model restructuring (managing the risks of expansion)
- Market entry/segment entry (understanding cultures and business partners)
- Consumer trends (creating new business models or managing risk e.g. from IT)
- Evolving distribution channels (aligning with customer needs)
- Reporting, regulation and compliance (using new technologies from Big Data initiatives for audit, tax, deal advice and consulting)
- Improving operational efficiencies (generating economies of scale, while maintaining quality)

KPMG's Global Automotive teams offer a proactive, forward-thinking service to clients, helping them take advantage of the sector's growth potential and overcome the main issues and challenges.





Me, My Car, My Life (November 2014)

In this study, KPMG sets out to better understand how the automotive industry will adapt to and shape the converging worlds of personalized mobility and the internet of everything.



AutomotiveNow (December 2014)

In emerging markets, competition is fierce for Western truck manufacturers. This is why more and more of them are choosing to cooperate with local brands and to offer simpler models. But is this the right way to go? This issue of the AutomotiveNow Magazine gives you a comprehensive insight of challenges for truck manufacturers in emerging markets.



Practical Aspects of IFRS: a guide for automotive companies (Spring 2015)

The Automotive IFRS and Indian GAAP report examines the sector-specific IFRS and GAAP issues and is designed to strengthen the client's technical IFRS GAAP expertise.



Global Heavy Truck Brand Value Study (Summer 2015)

KPMG's Global Heavy Truck Brand Value Report will map and analyze all important truck brands from around the globe, measure the brand attributes that define the brand value, and assess which are most important in defining the individual brand strength.

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